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FOUR DAYS IN PETRA,

BY

WILLIAM BUTLER OGDEN.

WITH PHOTOGRAPHS TAKEN BY MR. WILLIAM H. RAU.

ON the 27th of February, 1882, a party of four of us left Suez for Mt. Sinai, Petra, via the "long Desert." We took the usual route to Sinai, stopping at Wady Feiran two or three days to make the ascent of Jebel Serbal, the toughest piece of mountain climbing I have ever done, and which has forever cured me of going to any place where I cannot ride. But I must say that the view from the top is glorious, extending from Suez and the coast of Egypt on the north and east, to beyond Sinai on the south, and the mountains on the other side of the Gulf of Akaba on the east.

Our party consisted of four Americans, our dragoman, a cook and a servant, and twenty-one Bedawin with eighteen camels to carry us and the luggage. The dragoman, Mohammed Achmet Effendi Hedayah, an Egyptian of Moorish descent, was by occupation a

silk merchant, and only acted in his present capacity when in want of recreation. He had an enormous nose, which was his pride, and I remember that, being near Beersheba, we happened to meet a sheikh who also had a large nose, which so disturbed Hedayah that nothing would do but we must measure the two features. This we proceeded to do with great solemnity, and the result being in the dragoman's favor, he was put in good humor all the day, and in fact long afterwards, whenever he happened to think of it. His greatest failing was his fondness for lying—but, taking him all round, he was an exceedingly good dragoman, and the most likely one to get us into Petra, if it were possible for any one to go there. The mention of Hedayah reminds me of what the late General Stone Pasha said about believing things in the East: "Believe nothing at all that you hear, and only one-half of the square root of what you see."

The last person who succeeded in making any stay at Petra was the Rev. Dr. Strong, in 1874. From that time till our expedition no one entered the place except a German gentleman and his wife (whom we afterwards saw in Jerusalem), who arrived at seven in the evening and were forced to leave at five the next morning, just two days before we arrived.

Lieut. Conder, R.E., is said to have succeeded in reaching there in 1883, but with this exception it is reported that no one has achieved the visit since 1882.

Leaving Sinai on March 13, we travelled in a northerly direction over Nugb Hudua and through the grand and beautiful Wady el-Ain to the Gulf of Akaba, and then by the shore to Akaba, arriving there March 18.

We found Sheikh Mohammed Benjad of the Alawin Arabs waiting for us.

He is a villainous old fellow, and very avaricious. We found that he had kept the German gentleman and his wife, above referred to, eight days before he would let them have camels, and that they left about two hours before we arrived. After a good deal of squabbling and threats of returning, we managed to get off March 21, going via Wady el-Ithum. On the third day we passed the ruins of Humeimah. They cover a large area, and contain a number of cisterns and tanks for collecting rain water. The principal ruin now is a room, an almost perfect cube in shape, of about twenty feet each way. Just outside is a hole, the size of an ordinary bucket, cut or drilled in the rock, and in it a spring that always just fills it and never overflows or dries up. A little south of Humeimah we passed over one of the battle-fields of Ibrahim Pasha, where cannon-balls and iron bullets lay on the ground in great numbers.

On March 24 we camped at Ain Dalagha, Petra being from about thirteen to fifteen hours distant. It is necessary to camp so far from Petra in order not to be molested by the Fellahin, or farmer-Arabs who infest the valleys adjacent to Petra, and take to the highway on the slightest provocation, or more truthfully said, perhaps, on none at all. Here we sent forward a scout to inform the Bedawin that we were to enter Petra, and that they must come and protect us from the Fellahin. It seems that the Sheikh of this tribe of Bedawin, Selim, who is one of the most powerful chiefs west, or rather south of the Jordan, was at one time in Hebron, and so careless was he that he was arrested for murder and rob-

side, but those that most attract attention are three monuments greatly resembling Absalom's tomb in the valley of Jehoshaphat. They are about fifteen feet square, with sides constructed after the manner of the Egyptian tombs and with flat roofs. In one is a small room with a door cut quite low. A few yards further, on the opposite side of the stream, is a monument, the lower story of which consists of a portico of six Ionic columns supporting an ornamented pediment. Above this is a plain façade sustaining, in a recess, four pyramids hewn out of the solid rock.

Another turn of the stream, and we come upon a cleft in the rocks spanned by an arch of masonry, formerly used to support an aqueduct. Now it is almost inaccessible. After passing this the gorge becomes narrower and narrower, and the cliffs higher and higher. We now have to ride in the bed of the stream, which is choked with oleander bushes in full bloom, filling the air with their delicious fragrance. In a little while we come to a small opening, which appears to have no exit except the one by which we entered. The stream seems to lose itself in the rock; but following it we find that it takes a sharp turn around a jutting piece of rock, and that the grandest part of the famous gorge of the Sik is before us. One can hardly see fifty yards in front, and so it is all along. It seems at each angle as if one had run into a cul-de-sac, and must turn back. The cliffs here rise to a height of three or four hundred feet, and they interlock so, that often for one hundred or one hundred and fifty yards at a time the sky is completely shut out from view. It is so narrow that one can easily touch both sides at once with out-stretched arms. On

the left side, going west, is an aqueduct tunnelled out of the rock, perhaps five or six feet from the ground. On the right are the remains of another, at a greater height, made of earthenware pipes let into the rock. In scratching away the stones and gravel underneath the feet, the remains of an ancient pavement are brought to light, deeply grooved by the passage over it of chariot wheels. Every few steps there are niches on the sides of the gorge, perhaps for the image of some god, and there are also tablets with obliterated inscriptions. After an hour or so of walking, we see a glimpse of sunlight ahead; a turn or two of the stream, and we stop and catch our breath from sheer admiration and astonishment at the scene before us: a façade cut from the most delicate rose-pink tinted rock and of two stories, of which the lower one originally had a portico of four columns (one is now missing) but little in relief, and covered by a pediment delicately sculptured with vases and flowers. At either end of the portico is a projection having a column to support a cornice. The columns and the style of the whole building are Corinthian. Above is what appears to be another portico of four columns, but cut in two, and in the central space is a pagoda-like monument topped by a dome supported by four columns with figures in bas-relief between them, and the whole surmounted by an urn. There are figures also in relief between the columns of the divided portico above, and on the side projections in the first story.

Such is the Khasneh Fara'on, and with the bright morning sun shining on the pink rock there is hardly a fairer sight in the world. It gets its name, Khasneh Fara'on—Pharaoh's Treasure—from the urn, which the



FIRST GLIMPSE OF THE KHASNEH FARA'ON.

Arabs believe to be filled with jewels of the greatest value, placed there by Pharaoh for safe-keeping, and guarded by genii. Inside is a vestibule with a door opening into a room somewhat smaller, which has still a smaller one behind it. There are also chambers opening laterally from the vestibule. What its object was, or to what use it was put, is not known.

While we were admiring this building, we became aware of a rumbling noise which grew louder and louder, and we could distinguish most ferocious yells mingled with the clatter of horses' feet on the stones, and finally out dashed ten or a dozen Bedawin on horses and carrying spears twelve to fifteen feet long. It was Sheikh Selim's son Talag and followers, who had ridden far and fast to prevent our getting into Petra; but finding us already there, they made the best of it and proceeded to escort us to our camp in the centre of the city. Talag told us that his father, finding some of his neighbors' sheep attractive, was at present proceeding to add them to his own flocks, and would come to us during the night; in the meanwhile he (Talag) would do all that lay in his power to protect us. The fondness of the Arab for his neighbor's sheep has a good many illustrations in the life of the desert. Two days after our entry we were again standing before the Khasneh and a Fellah passed by with a sheep slung over his shoulder. One of the Bedawin who was with us stopped him, took his burden from him, emptied his wallet of all the piastres it contained, and giving him a prick with a spear, coolly told him to get out; which he proceeded to do with many howls of anger and grief. The Bedawin have as little respect for meum and tuum as the Fellahin,

but they are much more gentlemanly in conveying their plunder. To return to the story: At about half-past five we thought it well to be moving towards camp, and joining our escort we followed the stream into the city. After leaving the Khasneh, tombs appear with increasing frequency and of all styles, from the most elaborate with columns and carvings to the simple doorway cut in the cliff. We passed the ruins of the Tomb of the Greek Inscription, which fell during the rainstorm at the time Miss Martineau was here.

Suddenly the gorge widens to about four or five hundred feet and before us lies the Amphitheatre, having an arena of 120 feet diameter, thirty-three tiers of benches and a row of what might be "boxes" at the top. It is estimated that three or four thousand people could be seated here.

From the centre of this, the view on all sides is remarkable. More than a hundred tombs, temples, or habitations (whichever they may be) of all descriptions are seen. The cliff opposite the theatre first catches the eye, partly because the principal tombs are on that side, but more than that, perhaps, on account of its color or colors. They are in streaks from black, red, pink, green, yellow, blue, purple, lilac and so on, running through the whole gamut to white. Except in that it is a most beautiful object, it reminds one somewhat of Castile soap. The first tomb is the Tomb with the Arched Terrace, sometimes called the Temple of the Urn. The front elevation is composed of four Doric columns, topped by a pediment. In the centre is a door with a window over it, and still above are three more windows in the spaces between the pillars. The middle one of

the upper windows has some figures carved in bas-relief. The inside originally contained six rooms, which, it is said, "on the introduction of Christianity were converted into three for the reception of altars, and the whole temple was turned into a church; the fastenings for pictures are still visible on the walls, and in an angle is an inscription in red paint recording the date of its consecration." The architect cut in from the face of the cliff about fifteen or twenty feet before beginning to carve out the temple. The platform in front is supported by a terrace of two rows of arches, one above the other. The sides are cloistered, as it were, and supported by five columns, but those on the right have been destroyed. Over the pediment is an urn, which has become a target for Arab bullets.

The next tomb of importance, the Corinthian Tomb, is about two or three hundred feet further on. The façade is composed of eight columns, supporting a very deep double cornice surmounted by a pediment. The second story is an exact copy of the Khasneh, with the exception that there are no figures in relievo. There are four doors, two arched and two almost triangular. The principal chamber has recesses in the walls and four table-like structures in the centre.

Close by the Corinthian Tomb is the Temple with three tiers of columns (*frontispiece*). It is, perhaps, the largest temple or tomb in the valley. The lower story has four doors with pilasters on either side supporting a pediment over each.

The second story has a row of eighteen Ionic columns surmounted by a similar row; of which, now, only six columns remain. This is all that now remains, but

it is very probable that there was once still another story. In front, traces of paint appear and it is noticed that some of the capitals are fastened on, while it seemed to me that part of the top row of columns had been built of, or filled in with, stone masonry. In the interior there are remains of stucco work.

Next comes the Tomb with the Latin Inscription. The façade is very simple, having only pilasters at the angles, supporting a cornice and surmounted by a pediment. The entrance is small, and above it is an ornament of a semi-circular shape. Here on a tablet are three lines of Latin, containing the name of Quintus Prætextus Florentinus, who was a Roman Magistrate that died in Petra, while governor of Arabia. This is the only legible inscription that has as yet been discovered in Petra.

Just north of here are what were evidently dwelling-houses, for they have windows and there are benches along the sides of the rooms. The Tomb with the Sinaïtic Inscription for some reason or other we were not allowed to visit.

On returning to the camp, we found our tents pitched under the cliffs, a little north of the theatre. A dozen or so of the Fellahin were standing about, and immediately on catching sight of us, began shrieking and yelling in a most ear-splitting manner. And from that moment till we were well out of the valley, we were never free from those terrible howls. It was only for a short time, about two or three in the morning, that we could hear each other when we spoke in our natural voices. Many times during the day we could not hear ourselves at all, no matter how loudly we called. The

Fellahin kept increasing in numbers every moment, till four days later there must have been considerably over a hundred around the camp, and each new-comer added his voice to the already deafening noise. While we were at dinner some Fellahin tried to get into the kitchen tent, but the Bedawin, who, by the way, were outnumbered four to one, drove them out. The noise increased, and we rushed out to see what was the matter. There stood Talag with drawn sword and flashing eyes, struggling to get at the Fellahin, but prevented by two of his own men. Sheikh Selim arrived at three the next morning with reinforcements. He came in the nick of time for us, for I am afraid that otherwise we should have been driven out. He told us that the German had been robbed by the Fellahin before he reached Petra, had been forced to pay a heavy blackmail when there, and had been driven out at five in the morning, having only arrived at six o'clock the previous evening. A cousin of Selim's, Faras by name, came in in the afternoon, and a more villainous face I never saw on any human being, or reptile. It was not long before he and Selim got quarrelling about the division of the spoils, and but for a remarkably agile dodge of Selim's, he would have had a very ugly looking knife between his ribs. However, it was made up in an hour or so. And so it was all the time we were there; there was fighting and drawing of swords and pistols every few minutes. We never left our tents without a guard of four or five Bedawin, and never for one moment were we free from the spying eyes of the Fellahin.

The cliffs behind our tents were honeycombed with caves and holes. Some of these appear very ancient,

perhaps more so than any of the monuments in Petra ; but otherwise they are of no special interest.

Two or three hundred yards to the west, on an isolated hill, is what Laborde called the Acropolis. The site is separated from the neighboring heights by deep and impassable gorges, and under the conditions of ancient warfare was, doubtless, quite impregnable. Remains of buildings are still to be seen on the summit. Just below it is a mound of rubbish, and I found, by turning up the earth with a broken stick, many broken bits of pottery, and among them two small oil lamps in almost perfect condition. From their appearance I should judge them to be quite old. The pottery is ornamented with figures, mostly geometric, in black or dark brown.

Now turning to the south-east and ascending a hill which rises from the base of the citadel, we see, on the left, the remains of a large temple, one column of which was still in its place in 1874. A little way beyond, several ravines branch out in different directions. Up one of these is a high platform made by a wall stretching from cliff to cliff. This is now in ruins. In the others are many temples and caves. On the left we see a façade with four columns, having between them two windows and three niches with remains of statues. The largest room is about forty feet long by thirty wide, and behind it is a smaller one with arched niches. Opposite this temple is an opening in the rock, and on entering we find ourselves in a large room, the sides of which are ornamented with thirteen fluted columns. Between many of the columns are niches, with grooves over them, for securing, it is said, ornaments or inscriptions.

A little further along is a staircase, with an immense

wall just beyond it. Ascending the stairs we come to a temple built in the Doric style. Continuing to the top, we find several reservoirs, the largest being about eighty feet long; twenty-five feet wide, and about twenty feet deep, all cut out of solid rock. There is also one with a double row of niches in its walls.

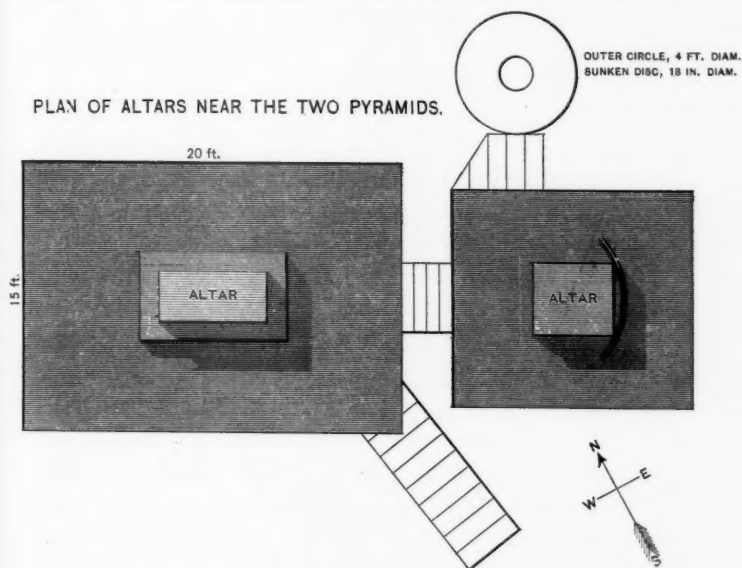
A few rods further and we come to a ravine, on the opposite side of which is a staircase cut in the rock. Following this to the top, there appear the foundations of a large building, which is supposed to have been a fortress. Just below this is the Pyramid, a small piece of undetached rock, about twenty feet high and perhaps twelve feet thick at the base. From here a long stairway leads down to the back of the Amphitheatre.

Looking to the south-west, one of our party, Mr. Rau, I think, saw what he took to be a second pyramid, but smaller and not in such good condition as the first.

This not being mentioned in any of the guide-books, nor in any of the other books on Petra that we had with us, excited our curiosity. So down we clambered, and crossing the gully, found a staircase leading to the top. Once there we found it to be levelled off, and a space about twenty feet long and fifteen feet wide cut out of the rock to the depth of about ten or twelve inches. In the centre of this is a raised platform, upon which is an altar. To the east of this, up four steps, is a raised platform on which is another altar, with a gutter around half of it. To the left of this last altar are four more steps, on mounting which we came upon a curious place, like a saucer in shape, nearly four feet in diameter, having a sunken disc of about eighteen inches diameter in the centre. Through the centre of this disc is drilled a

hole or drain, leading to a tank some few feet away. We supposed it might be one of the altars of Ba'al, perhaps, as it is well known that they used to build these altars in "high places."

Starting from our tents and walking towards the Acropolis, we come to the ruins of what was once a tem-



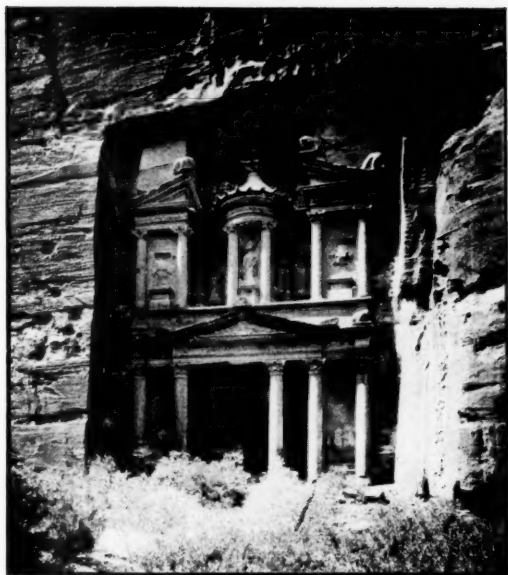
ple, but now its columns and its walls lie where they fell. Beyond are remains of a pavement leading through the débris of a Triumphal Arch to the Kasr Fara'on, Pharaoh's Palace. This building, with its columns of granite, is completely in ruins.

The last morning of our stay we went up to look at the Deir or "convent." The path up to it is very wild and steep, and in many places so narrow that it would

be impossible to pass but for steps cut out of the side of the rock. The Deir is 1,500 feet above Petra, and about an hour and a half's walk distant. After a final steep ascent we landed on a space about 150 feet square, level, and formed by cutting away the rock. On the northern side is an immense monolithic temple. That is the Deir. The façade is about 150 feet wide, by a little more than that in height, and faces Mt. Hor. The lower story has eight columns, and between the two outside columns at either end are niches like false windows. These columns are over seven feet in diameter and fifty feet in height. The interior consists of a large hall with an arched niche at the back. The upper story is somewhat similar in design to the Khaṣneh.

Directly opposite the Deir is another high cliff with remains of temples built there.

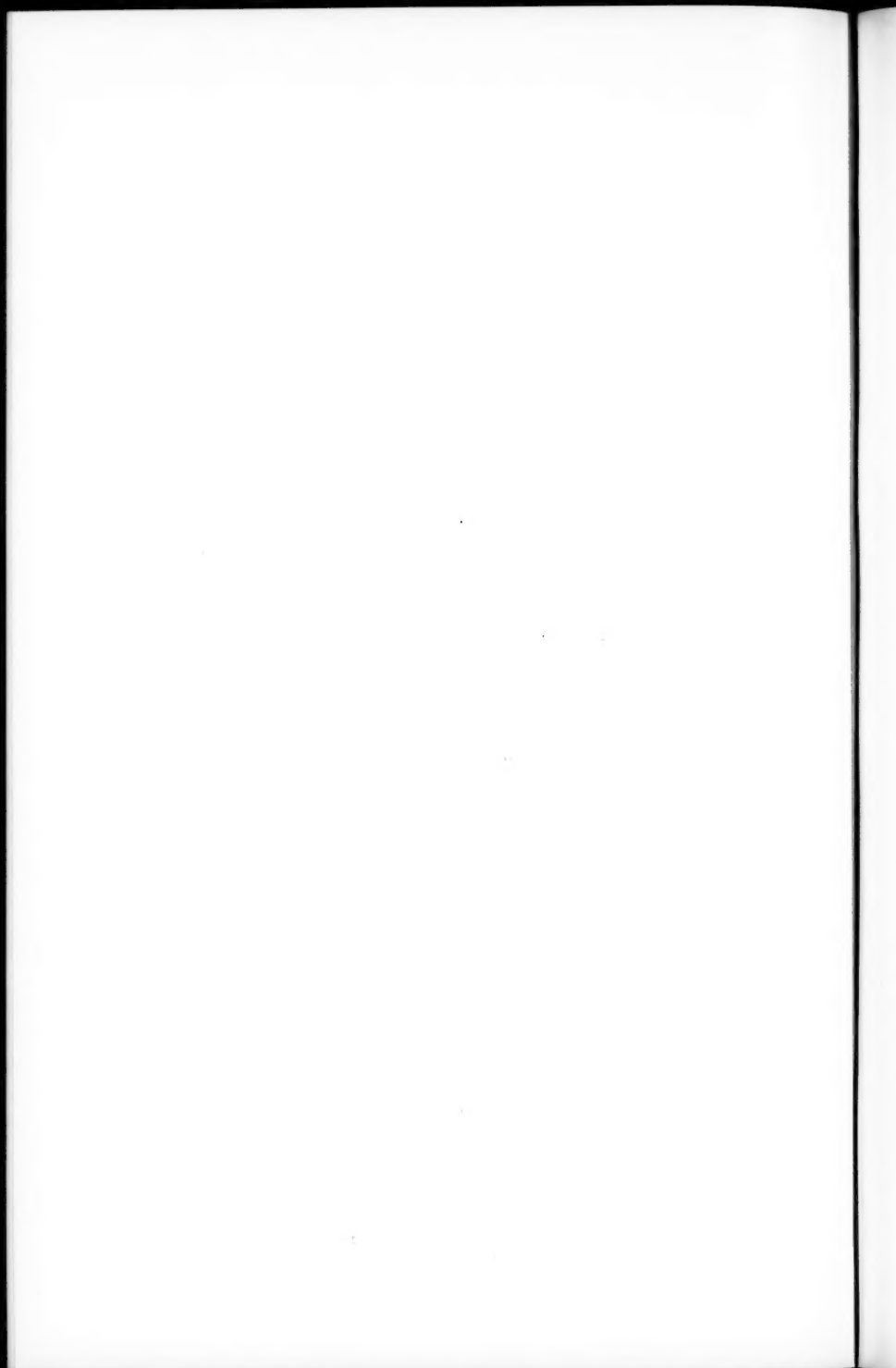
Returning from the Deir we met our camels at the Kasr Fara'on and proceeded to leave Petra. In about ten minutes we passed an unfinished temple, which tells how the Petrans worked, by commencing at the top and working downward. Sheikh Selim and about fifteen of his men, and twenty or twenty-five Fellahin, escorted us through the "Nugb" or pass. As we were taking leave of them, our Bedawin had a fight with the others, and I see by my note-book that "no harm was done, except that Hedayah got a sabre cut on his leg that ruined his breeches." We had two more fights before we were done with them, and although a good deal of ball and powder was spent, it resulted in nothing but a broken head for them and one prisoner for us. We had now to pass through a hostile country, which we did safely, and arrived at Jerusalem in time for the ceremonies of Holy Week.



THE KHASNEH FARA ON.



AN UNFINISHED TEMPLE.



THE CITY OF MEXICO.

BY

CLARENCE PULLEN.

A THEME of universal interest is interwoven in the history, people, scenes and surroundings of the City of Mexico, which has been successively the seat of Aztec domination, the home of the Viceroy in the days when New Spain was the brightest jewel of the Spanish Crown, and lastly, in her best estate, the capital of the Mexican Republic. A strange atmosphere of beauty, romance, pathos and mystery envelops the past and present of this tropical city above the clouds, whose white walls, shining up to the clear sky, are nearly a mile and a half above the blue waves of the two oceans that lave, on the east and the west, the palm-fringed shores of the great plateau Republic. It was founded in its present form by Hernan Cortes and his followers, in the year 1522, on the ruins of the conquered Mexican city, Tenochtitlan, the history of which goes back to the epoch of the dawning pre-eminence of the Aztecs, who, at the time Columbus sailed on his voyage of discovery, had already made of it the foremost city in the New World. Under the Montezumas this people were extending their dominion in every direction, and demanding homage and tribute of all nations they knew, when their power fell irrecoverably to naught before the terrible arms of the Spanish Conquistadores.

The long, narrow country of Mexico, aptly characterized by Alexander Von Humboldt as the "bridge of the world," extends from north latitude $32^{\circ} 29' 45''$ to north latitude 15° , and from longitude $86^{\circ} 46' 39''$ to longitude $117^{\circ} 11' 40''$ west from Greenwich. Its greatest length, measured from northwest to southeast, is $1973\frac{3}{4}$ miles. At the northern boundary of Mexico, the North American Continent, cut into by the Gulf of Mexico on the one side, and by the Gulf of California on the other, narrows toward the south until it represents hardly more than the ridges and wide plateaus of the great Rocky Mountain Chain, that, stretching from Alaska, through British America and the United States, becomes in Mexico the Cordilleras, and in South America the Andes. The greatest width of Mexico, measured on the 26th parallel of latitude and including the Peninsula of Lower California, is 750 miles, and its minimum width in that great depression of the mountain chain, the Isthmus of Tehuantepec, is 140 miles. Although a non-maritime country, Mexico has an extensive seaboard. On the east, along the Gulf of Mexico and the Caribbean Sea, its shore line is 1613 miles in length, and on the Pacific Ocean and the Gulf of California it is 4168 miles, yet there is not a good harbor on its eastern coast, and on the west the commerce of its ports is insignificant. Its line of frontier with the United States extends 1789 miles, and its southern frontier adjacent to Guatemala and Balize, 532 miles. The area of the country is 766,000 square miles; its population was set down in 1882 at 10,001,884, of which 19 per cent., or 1,882,522 belonged to the Caucasian race; 38 per cent., or 3,765,044 to the native Mexican or Indian race; and 43

per cent., or 4,354,318 to the mixed race. Politically, Mexico is composed of twenty-seven free and independent States, one territory, one military district, and the Federal district, in which is situated the city of Mexico, the National Capital.

In its physical geography and climate the Mexican Republic is divided from north to south into three zones, the limits of which are defined by gradations of altitude. On the seaboard on each side, the narrow strip of coast rising from the ocean level to a height of from 3,000 to 4,000 feet is known as the *Tierra Caliente*, or hot land, the characteristics of which are purely tropical. Above these slope up to the table-lands sunny, fruitful expanses called the *Tierra Templada*, or temperate land, with an exquisite bland temperature the year round, where are found all of the products of the semi-tropical regions. And above these in the form of wide, plain-like valleys lying between the mountain chains that, running from northwest to southeast, form the wide summit of the great ridge, are the high plateaus, generally between 7,000 and 8,000 feet above the sea, known as the *Tierra Fria*, or cold land. In this upland region above the clouds of the coast, the increasing altitude toward the south counteracts the effect of diminishing latitude, and even far within the tropics, gives to people from the north the impression of a wonderfully exhilarating and equable climate, in which the heat does not materially increase as they journey to the south.

As the traveller by rail, entering the Mexican Republic from the north, leaves the town of Paso del Norte in the Rio Grande Valley, he is at an elevation of 3,717 feet above the sea. As he advances the grades ascend,

and at the city of Chihuahua, 225 miles to the south, the elevation is 4,633 feet. He is now fairly on the table-lands, and, over the plain, sees, on the left and right, low mountain ranges which draw together in places, leaving only narrow passes through which the railroad winds, and these widen again into valleys. But few streams are met and these are insignificant in size, for there are no great rivers in Mexico. The plain continues to rise ahead, until at Zacatecas, 785 miles from Paso del Norte, the altitude is 8045 feet, after which point the grades rise and fall, but maintain a general level. In his progress of 500 miles a day there are revealed, but in more rapid progression, the phenomena that accompany a sea voyage to the south. The north star and the constellations that revolve about it sink, and new stars arise in the south. Dawn and twilight grow shorter, the brightness of day merging more quickly in the blackness of night, and the morning breaking, unheralded, in a burst of sunlight. There is but little change in climate and vegetation, except that the air is softer and plants grow larger and more numerous. The cotton and corn fields that border the track increase in extent and number, and there are signs among the people and their houses of greater wealth and more luxurious living. The cactus and palma, which, on the southern plains of the United States are, in the main, merely large plants, have grown, near the tropics, to trees thirty or forty feet in height, with spreading branches and massive trunks, which are used by the Mexicans for timber and fuel. The appearance physically and in costume of the natives changes toward the south. They are more comfortable looking, and their cotton garments

are not so frequently supplemented by the Saltillo blankets that were seen muffled about the Mexicans who were leaning against their house walls watching the train, in the morning and evening of the first day after leaving Paso del Norte. Otherwise the dress is quite similar, with the cotton garments, the sombrero or rebozo, and the sandals worn by both sexes.

On the third morning the train, a little after day-break, is entering the Valley of Mexico through that wonderful opening completed, after nearly two centuries of excessive labor and mis-adventure, known as the Tajo de Nochistongo, an immense cañon-like canal, varying from 278 to 630 feet in width, from brink to brink, with a perpendicular depth of from 147 to 196 feet. It was cut, in the 17th and 18th centuries, to drain the waters of the upper lakes of the valley, which, before its completion, often overflowed their beds and inundated the city. This wonderful ditch is 67,537 feet long, and, owing to the lapse of time since work on it was abandoned, has come to resemble a natural channel rather than a work of man. Emerging from the Nochistongo at its upper end, there lies in view ahead a level, mountain-encircled valley, of irregular shape, the general extent of which is about fifty miles in length by thirty-five in width. Below the level of the Nochistongo, there is no exit for the waters that gather through rain-falls and streams flowing down from the mountains, and in the depressions of this flat valley they have collected in a chain of shallow lakes, which, reckoned from north to south, are named Zumpango, Xalcotan, De San Cristóbal, Texcoco, Xochimilco, De Chalco. A little to the southwest of the centre of the valley, two miles west of the

border of Texcoco, the largest lake, the city of Mexico, compact and white, seen in the distance, seems, with its plain and mountain setting, a fair round gem in the light of the sun. In the days when the city was the Aztec pueblo, Tenochtitlan, its site was upon a group of marshy islands in the lake connected with the mainland by causeways, and easily defended by its fierce and independent people against assaults of their aboriginal enemies. The gradual subsidence of the lake through evaporation, the partial drainage of the valley by the Nochistongo, and the continual though slow accretion of the soil in a depressed location, have left the city of Mexico of to-day on the mainland, a little above the surface of the lake, yet anywhere within its limits, at two or three feet below the surface, one at the present time finds stagnant water. There is no effective system of drainage, and the influence of such conditions on the health of people who live near the ground is naturally most disastrous. Despite the salubrity of the climate, fifty-five out of every thousand inhabitants die yearly in the city of Mexico. This mortality is confined largely to the poorer people, who live in huts on the ground in squalid, over-crowded alleys, or as servants with quarters on the first floors of the houses of their employers. Those of the inhabitants who are well-to-do live in the upper stories of their houses, and so maintain a fair degree of health.

The city of Mexico is in latitude $19^{\circ} 26' 5''$ north, and longitude $99^{\circ} 5' 25''$ west from Greenwich. It is about two and a half miles square, and covers about four times the area of the Aztec City, Tenochtitlan, the material composing which went into the making of the new

city. It is built generally on the lines of the old city, and contains a population estimated at 300,000. The space where the Teocalli, or great temple of the Aztecs, stood is now occupied in part by the cathedral, and in part by the Plaza Mayor, or great public square. The National Palace, which fronts on the entire eastern side of the Plaza, stands on the site of the palace of Montezuma. The leading highways from the city are along the Aztec causeways, and the aqueduct that brings water from Chapultepec follows the course of the aqueduct made by the Aztecs in the reign of their ruler, Chimalpopoca.

A bird's-eye view of Mexico, as taken from Chapultepec, or the top of the Cathedral, shows a city more oriental than western in its characteristics, and antique in every aspect. There are the same flat-roofed houses and narrow streets and alleys one sees in the cities of Asia Minor, or Northern Africa, and on each side the expanse of white wall broken only by the strongly grated windows, and the massively built gate or door-way that leads from the outer world into the patio, or court-yard of the house, about which is grouped the life of the Mexican household. Back of these the green foliage of fruit trees rising above high walls, suggests the charms of the out-of-door life in the gardens behind these barriers. There are crowded business quarters, and markets swarming, like Eastern bazaars, with people. There are horsemen caracolng on superb steeds, donkey-boys and groups of tawny skinned natives wearing garments of white cotton and shod with rawhide sandals. Only above the wide expanse of flat roofs and walled enclosures, instead of mosque and minaret, rise in all directions the spires and domes of magnificent churches,

the types of that noble architectural genius that for three and a half centuries found in Mexico its whole scope in the erection of great religious edifices, the monuments of the illimitable resources and paramount power of the Catholic Church, which during that time practically controlled the wealth and political authority of Mexico.

This oriental aspect of the city is not merely superficial; in the streets and houses, and in the whole fabric of Mexican social life, there can be recognized the imprint on the Spanish race and character of the Moors of the Mediæval Ages. It is not more observable in Spain itself than in this American city, founded in the generation that saw the fall of Granada, and among the first colonists of which was doubtless many an old soldier who had fought in the armies of Ferdinand and Isabella. It gives a flavor of the Saracen to this city, founded under the Cross, and so long one of the most orthodox of the temporalities of the Roman Church. Owing to its remote and provincial position, and the jealous watchfulness of Spain, which, during the time Mexico acknowledged allegiance, excluded her from all contact with other nations, this country remained in usages and manners practically unchanged for three centuries. Even after its connection with the parent country was broken, it took another half century for Mexico, struggling through the throes of revolution, to adjust itself to the untried conditions of self-government, to get fairly into relation with the modern world. It is not only in the architecture and home surroundings, but in the manners of the people, that the inheritance from the Moor may be observed. As the Indian woman passes you in the

street, she draws a fold of her rebozo across the lower part of her face, a trace of the Moorish concealment of women's faces. People yet living in the capital recall that in former times the señoritas would throw a corner of their lace mantillas across their mouths on passing a man. Many Moorish words are incorporated in the language of this people. In its essence, however, the national character is a composition of the strong traits of the Spaniards and aboriginal Mexicans, each at the time of the Conquest, in the 16th century, the Imperial people of the respective continents in which they lived. Although the people of mixed Spanish and Indian descent now largely exceed in number those representing either of the unmixed races, there has been maintained on each side an exclusiveness that has preserved a large proportion of the pure type of each. The Spaniards possessing originally, through conquest, the wealth and dominion of the country, kept aloof until recent days from all alliance by marriage with the subjugated race, and so maintained the purity of the "sangre azul," as well as wealth and station. The Indians, sullenly resentful against the conquerors, lived by themselves in their primitive communities, adhering to the language and usages of the times of the Montezumas, and finding in their poverty the best security against encroachment by the dominant class. The only common feeling between the races was in the observance of the rites of the Catholic Church. The revolution against Spain, initiated in the year 1810, and brought to a successful conclusion in 1821, in which the Indians largely participated, brought the races nearer together in the fraternity of a common cause. In the fifty years of revolution that followed, the necessity,

among the different factions, of conciliating and enlisting this powerful element of the population, led to a steady advancement in the condition of the Indians, until we see, in the year 1860, a full-blooded Indian, Juarez, occupying the Presidency of the Mexican Republic. The last struggle of the Conservative, which was only another name for the clerical party, to uphold under the forms of an independent nationality the conditions of the old régime, resulted in the fated Empire and ending of Maximilian. On the re-establishment of the Republic, the confiscation of the immense property of the church followed, and the distribution among the Liberal leaders of its hoarded treasures gave many among the Indians and mixed race the money and estates requisite to maintain the rank they had acquired by their patriotism and valor. To-day there is found in Mexico no political discrimination on account of race, and the assertion of superior social position based upon pure Castilian descent is rapidly disappearing.

The founders of the city of Mexico, following generally the features of the ancient city, located the principal national and municipal buildings about the Plaza, where had stood the great Teocalli of the Aztecs. The National Palace fronting upon, and occupying the entire eastern side of the Plaza Mayor, is 675 feet in length. It is a massive building that has apparently grown by successive stages from a comparatively small beginning, and now contains the offices of the Presidency, State Department, Treasury, Headquarters of the Army, Archives, Senate, Astronomical and Meteorological bureaus and the National Museum. Within its walls, moreover, are barracks for several regiments, and here a strong force of

troops is constantly quartered. In it one finds a collection of portraits of prominent military and political leaders in the history of the Mexican Republic, from the time of the revolt against Spain down to the present epoch. Conspicuous among them are pictures of the patriots Hidalgo, Iturbide, Morelos, Guerrero, Matoras and Allende, together with the presidents Arista and Juarez. Especially interesting is the National Museum. One of its departments occupies the lower floor on the north side of the Palace, and here may be seen the Indian religious relics, that have escaped the iconoclastic zeal of the priests, who, during the century following the Conquest, demolished every idol that fell in their way. Those here collected have been discovered in out-of-the-way places, or in the making of excavations.

The Aztec stone idols are indicative of the character and spirit of the people, and betray the inspiration that led to the human sacrifices in the rites of the Aztec religion. The figures are of varied sizes, the largest being an idol nine feet high, which is hewn, like most of the others, from porphyritic basalt, and carved with grotesque ornamentations. This is pronounced to be Huitzilopochtli, the War God and principal idol of Tenochtitlan.

A favorite religious symbol among the Aztecs was a serpent with feathers. This is emblematic of their great divinity and instructor, Quetzalcoatl, who was believed to have been their instructor in morality and civilization. The most noteworthy image among the several specimens of this class, is a large stone one in the south gallery, representing a coiled serpent, its body covered with feathers, rudely carved. A gigantic recumbent image,

holding upon its abdomen a round disk, is commonly assumed to be the god of Fire.

Of sinister appearance are the two great circular stones known as the Sacrificial and the Calendar stones, both elaborately carved and suggestive of the purposes for which they were used. The top of each is cut into regular devices, seemingly based upon an astronomical idea, or, it may be, definitive of the magnetic meridian and points of the compass. In the centre of the Sacrificial stone a bowl-like hollow, from which a groove leads to the side, is cruelly suggestive of the days when it stood as an altar upon the top of the pyramidal temple, and the victim garlanded with flowers was led up the stone steps and held across this stone, while his heart was cut from his living body by the obsidian knife of the high-priest and held aloft to the sun. Into this cavity his blood might drip and be carried off by the groove to the edge of the stone. The other, commonly called the Calendar stone, and which has a face carved in its centre, has been defined by Prof. Adolph Bandelier to be that form of sacrificial stone upon which the valiant captive taken in war was tied by the ankle and there fought chosen Aztec warriors sent against him in succession. If he vanquished them all, he was restored to liberty and loaded with presents, but if conquered and not killed outright, he was reserved for the sacrificial rites.

In other rooms of the museum is a collection of Aztec weapons, including the shield of Montezuma II.; here also is the strip of maguey paper, 48 feet long, on which the Aztecs inscribed the pictorial account of their wanderings from the time they left Aztlan in the north-west, near the end of the 12th century, down to their

establishment in the 14th century in the Valley of Mexico. Spanish standards, arms and armor and portraits of the Mexican Viceroys hang against the walls, conspicuous among them being the red damask standard of Cortes under which he conquered Mexico. There is a department devoted to collections in natural history, and, in glass cases in two corners of an interior room, a ghastly sight—five shriveled bodies of persons who, in the days of the Inquisition, had been walled up in the foundation of the Convent of San Francisco, and were brought to light during the demolition of parts of that establishment. These bodies are of a man, a woman and three infants, and the effect of the dryness of the climate and seclusion from the outer air has been to preserve them as veritable mummies,

The Diputacion, or Municipal Building, standing upon the southern side of the Plaza, contains the offices of the simply organized, but efficient Ayuntamiento, or city council, which with the resources at its disposal has made of the municipality of Mexico a city in many respects a model. To the east of this building is the Volador, the principal market, with stalls of venders fronting on narrow alleys. There are a number of markets in the city, all of great interest to the visitor. Here one sees to the best advantage the people of the different aboriginal tribes of Mexico as they bring their products in, often from remote villages, and spread them for sale upon the floors and platforms beneath awnings. In the garden on the north side of the Plaza, is a perpetuation of an Aztec custom in the shape of the flower market, with its awning of iron and glass and encircling counter, behind which are the Indian flower sellers.

About the Portales, arches over the sidewalk forming arcades, are the stalls occupied by venders of second-hand wares, and notably of old books. The general confiscation of church property, which became effective after the fall of Maximilian, scattered abroad that great collection of literature, secular and religious, that the Church institutions in Mexico had been three centuries and a half accumulating, and they have gradually fallen into the hands of the booksellers. Mexico is to-day a chosen field for the old-book collector.

On the north side of the Plaza is the Cathedral of the City of Mexico. Its foundations were laid in 1573, and it was finally dedicated in 1667. It is a stately structure, in beauty and magnitude worthy the great city in which it stands. Its architecture is a combination of Doric and Ionic. It is built of stone, and its cost was \$2,000,000. Upon its front are blazoned the arms of the republic, a token of the present supremacy of the civil over the ecclesiastical power.

The stranger has at first some difficulty in finding his way about the City of Mexico, from the fact that the names of the streets change in each block. The principal business streets are those of San Francisco and Plateros. During the eighteenth and the first quarter of the nineteenth century the China and East India trade of Spain was carried across Mexico. The goods of the east were brought by ship to the west coast, thence carried, by way of the city of Mexico, on the backs of Indians and of animals, to Vera Cruz and there re-shipped for Europe. In that way Mexico became the seat of a rich oriental trade. With changed commercial conditions in the world, this carrying trade across Mexico ceased.

A trip about the streets of Mexico reveals at every step objects of interest. The very names suggest memories of the Conquest. One street is known as the *Puente de Alvarado*, and at its side is an enclosed space showing the lines of an ancient canal across which, during the retreat of the *Noche Triste* (Dismal Night), when the Spanish forces under Cortes were driven from the city, Pedro de Alvarado made his famous leap in escaping from the victorious Aztecs. A beautiful church, now used as a hospital for the insane, *San Hipólito*, is associated with that disastrous retreat, it being the point where occurred the greatest slaughter of the Spaniards. It is especially notable for the curious carving on the outer angle of the wall surrounding its atrium, on which, cut in the white stone, is a commemorative device with an inscription.

An interesting feature of the larger Mexican cities is the aqueducts, that through the hills and over arches of solid masonry, bring water to the people. Mexico is supplied by two aqueducts, one leading from Chapultepec near at hand, the other fed by springs in the mountains of the *Leones* about twenty miles southwest of the city, and which from a point four miles away into the town rests upon arches of brick and stone, 900 in number, which support the thick wall in which lies the open channel.

On a high rocky bluff, a mile from the city and connected with it by the *Paseo*, the leading boulevard, is the *Castle of Chapultepec*, which is the Military Academy of Mexico, and the residence of its Presidents. About the base of the hill lie shallow lakes of sweet water overshadowed by groves of *Ahuehuetes*, a species of gigan-

tic cypress, moss-draped and of great antiquity. A large one, called the Tree of Montezuma, I found by measurement to be forty-eight feet in circumference. Ascending the hill, one finds the white walls of its courts adorned with exquisite life-sized Pompeian frescoes, executed by order of the unhappy Carlota, the Empress of Mexico, during her short residence there. Legend relates that here was the summer palace of Montezuma, who could go to and from the city without observation by a subterranean passage.

Another noted feature of the valley is the Viga, or canal that conducts the waters of Lakes Xochimilco and Chalco into Texcoco. Along this canal one sees ever a procession of boats of various sizes, from the canoe in which the Indian woman paddles to market, up to the great barges, with crowds of merrymakers bound on a day's excursion. There are various towns and picnic grounds along its edges, favorite places of resort of the poorer Mexicans on Sundays and feast days. At the town of Santa Anita near the city of Mexico, are garden patches, separated by little strips of water, which were once the famous *chinampas*, or floating gardens of the Aztecs, but which in the subsidence of the waters of the lake have become part of the solid land.

Although long resident in the southwestern Spanish-speaking regions of the United States, and having often visited the Mexican Republic, I did not have the opportunity to visit the city of Mexico until the autumn of 1886. I arrived in the city on the morning of the 30th of September, just at the close of the rainy season, which begins about the 1st of July. During three months a heavy thunder shower may be counted on for each af-

ternoon. The rest of the year the weather is fair. I was a guest at the house of that accomplished journalist and Spanish scholar, Mr. Frederic R. Guernsey, editor of the Mexican Financier, who was my guide and companion in many pleasant excursions about the capital and to outlying towns. He was living in a beautiful house on the Calle de Humboldt in the true Mexican fashion, and with his wife and family was thoroughly assimilated with the country and its ways. I found at this season the most delightful weather, the air fresh and bracing, cool in the night and morning, but bright and warm in the middle of the day. One of the first cautions of my host was to take a light overcoat with me, whenever I went out of doors, and to walk always on the shady side of the street. The sunny side would not have been uncomfortably warm at this season, but so comparatively great are the chill and dampness of most of the house interiors that one is likely to take cold on coming in and sitting down after exercising in the warmth of the sun.

I had become a fair amateur photographer in anticipation of this visit to Mexico, and had brought my camera with me. My days in the city included many photographing excursions about the streets. One of the first pictures that I attempted was that of a pretty Indian market-girl, who with a donkey, laden with leeks and onions and lettuce, was waiting for customers on the street. She, like most of her class, was graceful and symmetrical of figure. A sombrero, or wide-brimmed hat, worn alike by the Indian men and women, surmounted her long, braided hair, and matched well with her bright skirts. In setting my camera, I discovered an attribute

invariably displayed wherever I attempted to make an out-of-door photograph in Mexico, the inordinate desire of the commonalty to be included in the picture. Before I had my instrument focused, with the handsome Church of San Hipólito as a background, a crowd of Indians and of the mixed race gathering from unknown quarters had formed about the girl and the donkey, making a detailed view impossible. My efforts to disperse them were ineffectual, the only result being a delay that served to collect a larger crowd. Presently a gendarme, one of the soldier police, seeing the gathering, came to my relief, and by considerable exertion, backed by the use of his club, succeeded in getting the mob immediately in front dispersed so that they did not come actually between me and my subject. But upon the people packed densely behind he was unable to make any impression; so signifying to me that he had accomplished all that official authority could effect, he composed his features into an expression of great deservingness and struck a heroic attitude in a position to be included in the foreground of the picture.

I never wearied of the types of people that I encountered on the streets. The different tribes of Indians had each, with a general similarity, certain marked points of individuality, but I found all ready to stop from their pursuits to have their pictures taken. The old pottery vender and his wife, as they came into town with their wares, the woman leading the donkey loaded with immense earthen pots, and the man bearing a similar burden on his back;—the party of Indians of a different tribe, with their wide sombreros, and hampers on their backs which they had brought into the city in the morn-

ing loaded down with pigs, chickens and vegetables, and now, at noon, leaving on a dog-trot, for their villages ;— the crowds gathered in the markets about hampers, earthen pots, baskets and piles of matting, with great pyramidal heaps of fruits and vegetables piled in front of the sellers ;—and, generally, the innumerable phases and aspects of daily life among the mixed and native races, offered a picturesque succession of subjects for the photographer. I was particularly struck with one Indian woman of a tribe across the mountains toward Tlaxcala, who was selling fruit among her people in a market. She wore the usual sombrero, with a dress and rebozo of rather better pattern than those of the people about her, and the black bands which held her dress at the shoulders were decorated with stripes of bright metal. In her I saw a representative of the old Indian nobility, and felt I could appreciate the force and fierceness of this free people, who are proud of their past and whose greatest epoch lies in the future. Her look of fearless indifference and the lurking flash in her sombre black eyes revealed the elements of strength and of danger that characterize the descendants of the allies of Cortes.

Any description of the City of Mexico would be incomplete which did not treat of pulque, the beverage of Southern Mexico, and particularly of the capital and the region about it. The pulqueria, or pulque shop, is to the Mexican what the beer saloon is to the German. There are 817 of these shops in the City of Mexico, patronized during the day by all of the lower orders. The wealthy people have pulque served at the table at home. The pulqueria is usually located at a street corner and bears a title intended to be attractive, and coats

of arms, gaudy pictures and inviting inscriptions are painted upon its exterior. Over its doorway, from one side to the other, hang green strips of the maguey plant, which corresponds to the traditional bush that indicated the wine-shop in early Europe. Besides the pulquerias, at every place of public gathering in the city there are to be found people carrying pigs' skins filled with pulque which they dispense in earthen mugs to thirsty customers. One has to learn to like the pulque, its taste being unpleasant to the unpracticed palate. It is highly recommended on sanitary grounds by the local physicians. The pulque is the fermented juice of the maguey or century plant, and the plains between Mexico and Vera Cruz are the most noted for its production. It is a beverage containing about the same percentage of alcohol as lager beer, but with a slightly narcotic effect. One of the excellent municipal laws of Mexico, which in its application differs from the sumptuary laws of the United States in the fact that it is enforced, orders that all pulque shops shall be closed at six o'clock, P. M., which prevents a vast amount of crime that would otherwise prevail under cover of darkness among the lower classes.

The water carrier is one of the features of Mexican life as, with his great earthen jar upon his back, held by a strap passing across his forehead, he goes about delivering water at the houses. Equally interesting are the little street stands where women of the Indian and of the mixed race sell Mexican delicacies which they cook at little fires of charcoal. The seller of enchiladas, or tortillas spread with an attractive mixture of chopped onions and Chili peppers; the buñuelera vending frit-

ters, dipped in syrup or honey; the keeper of the figon, or little inn, who, under the shade of a piece of matting, ladles out the savory Mexican stews, highly flavored with chili and garlic, to her hungry customers; the florista or flower seller, with arms full of flowers, her baby, it may be, slung by her rebozo to her back;—these and many another quaint figure are familiar sights in the streets of Mexico.

The Mexicans, like their Spanish ancestors, are very careful and precise in classifying each shade of intermixture of races. Those women in whom the blood of the negro intermingles with that of the Spaniard and Indian, are called *Chinas*, and, with their magnificent dark eyes, cream-tinted skin, beautiful forms and bright, picturesque apparel, are among the most beautiful of the lower class in Mexico. The beauty of the higher class of the Mexican women is proverbial, and is attractive in all its types—whether the blood of the Indian gives a duskier tinge to the cheek of the *señorita*, or one catches the suggestion of the people of Northern Africa in the Moorish contours of some face beneath the lace mantilla;—in the clear, olive complexion, black hair, flashing white teeth and impetuous movement of the girl representing the race of Southern Spain, and the blue eyes, fair skin and sunny hair of the proud *señorita*, whose descent has come through the Visigothic blood of Northern Spain.

On going to Mexico, I was so fortunate as to possess the entrée to much that is pleasantest in the social life of its people, but I found the people of the better class, even where I did not go with a special introduction, always perfectly willing that I should enter their houses,

and make any interior views with my camera. The large, plain-looking houses which, seen from the street, show nothing more than a blank wall broken by one great entrance flanked by grated windows, I usually found to be homes of elegance and luxury within, with walls decorated with paintings of a high class, with fountains and shrubbery in the court, and spacious gardens in the rear bounded by high walls which enclosed shade and palm trees and a profusion of tropical flowering plants.

The domestic life of the well-to-do Mexicans is serene and beautiful. Among the women and girls, except on the occasion of formal visits to other households, the invariable attendance at morning mass, and stated shopping excursions, existence is essentially a home life secluded from the world, but expansive and happy within the house. For amusement beyond there is the occasional theatre, opera, or grand ball, the evening drive on the Paseo, and the Sunday forenoon promenade on the Alameda. In many cases the beauty of the women survives through life, in all its changes. Large families are the rule, and the mother, to whom unquestioned obedience is rendered, is a companion as well as an older sister to her children. The poorer class have few wants and are content and happy in their sphere.

The paved courtyard of the house in which I was a guest was common to this and another house. In the rear was the porter's lodge, and all exit and entrance through the great double door that closed the outer entrance was attained through the medium of this functionary. From the nature of its house construction and domestic fashions, Mexico is a country where men do

not carry night keys, and women do not look out of the windows to see what is going on in the street. For sanitary reasons, the pavement of the courtyard was at an elevation of at least six feet above the level of the street, and the house floors were three feet higher than the yard. The verandas opening upon the court were set completely about with flowers. In and out during the morning came venders of vegetables, fruit, charcoal and the other things that go to the daily supply of a Mexican household.

The Mexican police, the gendarmes, organized in their present form during the reign of Maximilian, are a model force, exceedingly neat of appearance, with blue uniforms, white canvas gaiters and military fatigue cap. They are armed with a club or sword and revolver, and have the faculty of not obtruding when not needed and of being always on hand when required. They are invariably civil in address, and stand ready in case of a dispute with the public carriage-drivers to adjudicate and settle the matter according to the rates prescribed in the municipal ordinances.

The bull-fight, with all its pageantry, bright coloring, movement, danger and slaughter is the favorite amusement in Mexico, and with time gains rather than loses its hold on the popular heart. Until recently the fights for a long time have taken place in localities outside the Federal District, but a large bull-ring has now been built in the city proper, and the recent entertainments given therein surpass any ever before known in the history of Mexico.

The Alameda, or public pleasure ground, found in every considerable town of Spanish-speaking people, is

a noted feature here. It is a large level space, shaded by poplars and other trees, with flower beds and shrubbery, fountains, walks and seats which people may occupy at all times. It is in the mornings a favorite resort for the student and a playground for children. On Sundays, after mass, near the hour of noon, it is a meeting-place of the fashionable people, who go there to pass an hour in listening to the superb music of the military band, to meet acquaintances and to walk about. Among the buildings fronting on its south side stands the great white Church of San Diego, memorable as being the edifice from which heretics were led to execution in the days of the Inquisition. The Quemadero, or burning-place, was on the Alameda at a place now indicated by a fountain and electric light. It was a high square stone platform with a terrace, stakes and chains, and as, in those days, the square was a vacant space, the entire population could collect within view of the Quemadero to witness comfortably a public burning. Twenty-one people have perished here on a single occasion of this kind. English sailors unfortunate enough to be captured by Spanish cruisers in the Gulf of Mexico, off Vera Cruz, were frequent victims of the Inquisition. Often in returning from my excursions I crossed the Alameda in the shades of evening, inhaling the fragrance of the tuberose and that night-blossoming flower which the Spaniards call *La Dama de Noche*, the Lady of the Night, and saw the mellow flame of the electric light above the old burning place, illuminating the green foliage of the trees and the front of the church of San Diego. Then I best realized the contrast between the old and the new times, and the great liberalization that has

come to Mexico now fast growing into harmony with the spirit of modern progress and improving to her advantage its latest results.

Since the suppression of the clerical establishments under the Laws of the Reform, there has been inaugurated a public school system which is yet, however, hardly more than a beginning. In 1886 there were in the City of Mexico 101 free secular schools, attended by 7,400 pupils; 24 free Catholic schools, attended by 4,049 pupils; 37 Protestant schools, attended by 1,340 pupils; and of private, paid schools within the municipal limits 128, attended by 2,900 pupils. Including the higher schools and colleges the total number of educational institutions within the Municipality is 288, with a total attendance of 15,754.

Among the educational institutions of a higher order are the Conservatory of Music, a School of Engineers, the Medical College, Preparatory School and Colleges of Architecture, Commerce, Jurisprudence, Theology, and those under the offices of the Lancasterian Society, the Benevolent Society and the Catholic Society. Most of these were originally founded under the auspices of the Catholic Church. There is a creditable list of over a dozen hospitals and asylums in the city, which includes the Hospital of Maternity and the Foundling Asylum. These are largely the successors or perpetuation of benevolent institutions founded by the Church in earlier days.

In the way of places of public entertainment, there are the Teatro Principal, founded originally in the 17th century by the Brothers of San Hipólito, in order to obtain funds wherewith to sustain their hospital, and the Teatro Nacional, the principal theatre, finely arranged

in its interior with a seating capacity of 3,000. At this theatre one or more leading theatrical and operatic companies fill engagements of several weeks each season. There are several other theatres, and the city is visited often by circus companies which are quite popular, though the tastes of the Mexicans are best satisfied by the bull fight.

In the way of daily recreation a morning horseback ride, or an evening drive on the Paseo de la Reforma, the favorite Mexican boulevard, is always in order, and on the latter occasion one witnesses a good representation of the wealth and beauty of the city. A sail upon the Viga, or a trip to some of the beautiful suburban towns, as Guadalupe, Chapultepec and Molino del Rey is always a pleasant excursion for the visitor to the city, and horse cars run to many picturesque places beyond.

The social life of the people of Castilian and of mixed descent is essentially that of old Spain. The Indians have adopted little more of the Spanish customs than is attached to the church rites, and even these are tinted with the spirit of the ancient pagan worship. The events in private life that call forth the greatest celebration are death and marriage, and even among the poorest the ceremonies of the funeral and the wedding are as magnificent as their means will admit.

At Popotla, a little way out of the city, stands one of those ancient trees known as the *ahuehuete*, surrounded by an iron railing. To this tree is attached a touching memory of that disastrous time in the History of the Conquest, the Dismal Night when the army of Cortes was driven out of the city, his forces largely destroyed, or disarmed, and his scheme of conquest seem-

ingly rendered hopeless. At this place the Commander was able to stay the rout of his troops, and gain a few moments for rest and consideration of what to do in their desperate strait. Sitting beneath this tree, known ever since as the Tree of the Dismal Night, Cortes wept. From that day the tree has been preserved sacred in memory of this moment of despair that came once to the iron-hearted Conqueror of Mexico.

The ruling class in Mexico now includes people of the Spanish, of mixed and of pure Indian descent. There is among the class in authority a decided talent for administration and statesmanship. In diplomacy, the United States Government has not shown to advantage beside the Mexican. A glance at the portraits of the Viceroys and Mexican Presidents, hanging against the walls of the National Palace, shows a very superior set of men, looking every inch fit to govern. It was a daring piece of statesmanship, the initiation in 1859 of the great scheme of reform, by which the overshadowing power of the church was curbed, and her hoarded possessions were confiscated to the State and thus diffused through the country to aid the development of a new national life.

President Comonfort, in 1852, struck the first blow in his contest with the Monastery of San Francisco, the successful issue of which established the precedent that State was supreme above the church. Following him, Juarez had the courage to enact the sweeping Laws of the Reform; but before they could be made operative there came the long struggle with Maximilian. After the fall and execution of this Emperor and the re-establishment of the Republic, the delayed blow fell upon the

church property in the form of wholesale confiscation, suppression of all religious orders and curtailment of the powers of the priesthood. Following Juarez, who had prepared the way, have come the first and second administrations of the present President, Porfirio Diaz, and with these the full beginning of the era of national progress that is placing Mexico abreast with the foremost people of the time. Under his government have come the railroads from the north, the free schools, the wide system of internal improvements, the establishment of peace and safety to the country and stability to the government. The recent change in the constitution extending the term of the Presidency to six years, and permitting the President to succeed himself, by practically insuring the continuance of the administration of Diaz, gives a guarantee of safety to capital and vested interests most salutary to the prosperity of the country.

There are many undeveloped possibilities in the Mexican character. The talent of their artists in the execution of works on a grand and noble scale is pronounced. Their allegorical and historical paintings and statuary indicate a national genius of a high order. The colossal equestrian statue of Charles IV., a work executed wholly in Mexico at the beginning of this century, ranks high among works of art of its class. It was cast in solid bronze, weighs thirty tons, and the height of the horse and rider together is fifteen feet and nine inches. It is set in a commanding position upon a pedestal in the Plazuela, at the western end of the Avenida Juarez. In public places of the city are statues of Columbus, Guatimotzin, the last Aztec ruler, and other

notables ; but the one that most appeals to the Mexican heart is the tomb of Juarez in the cemetery of San Fernando. It is a Grecian temple of marble with low roof, held up by rows of columns, and on the base, thus sheltered, reposes a full-length statue of the dead President, his head supported on the knee of a mourning female figure of Mexico. His title of the Liberator, accorded by all Mexicans, marks the veneration in which his memory is held, and this tomb and its associations are an inspiration of patriotism to the Mexico of to-day.

A rare and wonderfully transparent atmosphere clothes the mountain slopes, the valley and the great city. From distances of thirty or forty miles away on the southeast, but seemingly near at hand, the snowy summits of the grand volcanic peaks, Popocatepetl and Ixtaccihuatl, overlook the lower mountains that lie between them and the valley. Seen from the city with perfect distinctness, pure and white against the deep blue of the sky, they are a cool and refreshing sight in this tropic land. The top of the latter mountain resembles with singular perfection of detail a reclining woman, beneath a spreading white sheet. The very backward flow of the hair is indicated in the contours of the snowy mantle, and the poetic Spanish name *La Dama Blanca*, *The White Lady*, is the common appellation.

There is a grandeur in the scenery that is finding its counterpart in the development of national character. Mexico has shaken off the trammels imposed upon it when the ecclesiastical power was supreme, and has awakened to the light of the present era. In the new liberty an epoch of hope and vigor is with her, comparable to that of peoples in history when just advancing from

barbarism into civilization. The Mexicans are not inherently an inferior people. The swift degeneration of the Spanish power arose not from any decay of the race itself, but from the operation of a destructive political, economic and ecclesiastical system. Now that Mexico has assumed in reality as well as in name the character of an independent nation, upon this awakened race will fall, as upon a fallow soil, the quickening seeds of art, of science and of literature, which will develop contemporaneously with the increase of the country's material prosperity. From the north comes with every train the communicative throb of the life of a more advanced nation which is working upon the same lines, and the inculcation of the precepts that have made successful the republican experiment of the United States. From across the broad Atlantic are imparted the warnings and lessons of monarchical government, and the existence of the forces that are compelling their liberalization in Europe. And from all sides is coming in an immigration of enlightened people that brings a supporting force to the cause of good order. The formation of a strong national feeling is indicated in the increasing stability and permanence of the Mexican Government. Among the great populations destined in the future to inhabit the North and the South American Continent, Mexico will find her place in America corresponding to Italy in Europe, and temples of art and science will adorn the sunny slopes that stretch down on one side to the shores of the Pacific, and on the other to the blue waters of the great Gulf, the Mediterranean of America.

THE ORIGIN OF THE NAME "AMERICA."

BY

GEO. C. HURLBUT.

AN article under this title in the Bulletin of the American Geographical Society, No. 4, for 1886, was devoted to an examination of Mr. Jules Marcou's theory that the name of the New World was taken from that of a mountain range in Nicaragua, and was, therefore, of purely American origin. This theory was advanced in a paper contributed by Mr. Marcou to the *Atlantic Monthly*, as well as to the *Bulletin* of the Paris Geographical Society, in 1875. He has now returned to the subject.*

If his theory, as first published, failed to meet with acceptance, the reason for this lay rather in the inherent weakness of the argument than in any defect of style or manner in the paper itself. It is, unfortunately, impossible to say as much for the present work. The argument has gained nothing in strength by the lapse of time, and the spirit which pervades this pamphlet of eighty pages is not to be commended.

Mr. Marcou holds that four facts dominate the question as to the origin of the name, America. These facts are :

1st: That *Amerrique* is the Indian name of the mountains between Juigalpa and Libertad in the prov-

* Nouvelles Recherches sur l'Origine du Nom d'Amérique, par Jules Marcou. Paris, 1888 (From the Author).

ince of Chontales, in Nicaragua; and these mountains separate Lake Nicaragua from the Mosquito Coast. The word *Amerrique* signifies, in the Maya language, "the country of the wind;" "the country where the wind blows constantly."

2d: The Christian name of Vespucci is *Alberico* in Italian and in Spanish, *Albericus* in Latin.

3d: No other name has ever been subjected to so many variations and combinations, whether deliberate or unconscious, as the name of Vespucci. There is no parallel instance in the history of distinguished men. Excepting the name *Alberico*, not one of the names is found in the nomenclature or the calendars of the Italian and Spanish saints, although Vespucci lived at the time of the greatest fervor and the absolute supremacy of Roman Catholic Christianity. Finally, not one of these names, *Americus*, *Amerigo*, *Amerigo*, *Amerigo*, *Amerigo*, *Americo*, *Almerigo*, *Albertutio*, *Almerico*, *Morigo*, *Damerigho*, *Armenico*, *Eméric*, *Aïmeric*, *Alméric*, and *Améric*, is a diminutive, or an accepted form, either in Italy, or in Spain, or in France, for *Alberico*, *Albericus*, *Alberique*, *Albéric*, *Albert*.

4th: Before 1507, the date of the publication of the name *Americus*, by Jean Basin, at Saint-Dié, the name is not to be found in any printed document, nor in any manuscript document of recognized and unquestionable authenticity.

These are Mr. Marcou's four facts, and they do not all stand examination.

1st: The range of mountains in the Chontales province bears among educated Nicaraguans the name of *Amerisque*; and the orthography of a word is to be

learned from the educated, not from the ignorant, men who use it. The *Amerrique* tribe, which gave its name to the range, is fast fading away, and there seems to be no reason for believing that the law, which works in all other languages, does not work in theirs. Names are a part of language, and language is, like Falstaff, in a state of continual dissolution and thaw. If it were not for the written form, preserved for us by educated men, who could guess that the spoken word *Chumlee* was spelled *Cholmondeley*, or *Shonggum*, *Shawangunk*, or that the salutation *M'sieu*, to be heard from every unlettered Frenchman, was properly *Monsieur*?

It is supposed that the *Amerriques* were once powerful, but very little is known concerning them. The decay of their speech must have gone on for a long time before civilized men had occasion to note the tribe, and the name by which the people and the mountains are now known is, not improbably, the bare remnant of the original word, which may very well have been something like *Amerristiquique*, shortened successively to *Ameristique* and *Amerrique*; to which latter shape the arts of writing and printing may give permanence.

2d and 3d: Mr. Marcou would deal much more easily with the name of Vespucci if he spent some time in renewing his familiarity with the printed books of the 16th century, and in noting the indifference to orthography which marks them all, even those in Latin. The Italian books are more nearly correct than those in the other modern tongues; but not even in Italian was there a fixed standard.

Paolo is spelled indifferently *Paulo*, *Polo*, *Paholo*; and Michael Angelo writes it *Pagolo*. There are five or

six forms and three different accentuations for the name *Niccolò*. *Caboto*, an easy name, is spelled in eleven different ways. If we omit, as we should, from the fifteen equivalents of *Alberico* given by Mr. Marcou, all but the Spanish and Italian forms, the number is reduced at once to ten. Two of these, *Albertutio* (Albertuccio) and *Morigo*, are diminutives, and are not to be counted. The other eight explain themselves as modifications of the original *Alberico* to any one who remembers that the seamen who commanded and worked the Spanish ships spoke at least six different Spanish and Portuguese dialects, or tongues, and quite as many of Italy and the Italian islands. The sea-change that a Tuscan name would suffer under such conditions is illustrated by the case of Vespucci as well as by the familiar example of *Livorno*, turned into *Leghorn* by the Genoese who traded with England.

4th: This well-known fact may be admitted without remark.

Mr. Marcou has found thirty-four places in America between Costa Rica and Greenland with names ending in *ique* or in *ic*, terminations equivalent to each other. He affirms that no document of the 16th century gives the name of an American plain, or plateau, or range of mountains.

Coming to St. Dié, in the Vosges, he takes an opportunity to describe the translator of the *Quatuor Navigations*, Jean Basin, and his associates in the Gymnasium, the Luds (Gauthier and Nicolas), Pierre de Blarru, Laurent Pilades, Mathias Ringmann, Symphorien Champier and Jehan Aluys.

Waltzemüller (Hylacomylus), who has hitherto

passed for the scholar that applied the name of America to the New World, was, if Mr. Marcou is right, no scholar at all, but a mere printer, the foreman of the establishment which brought out the productions of the Gymnasium.

He was also, on the same authority, a German from beyond the Rhine (p. 22), a vain fellow (p. 31), an excessively vain fellow, a braggart, a pretender (p. 33), a pillager and pirate (p. 34), an ambitious and grasping fellow (p. 35), an audacious fellow (p. 40), worse than a counterfeiter, a plagiarist and a veritable pirate (p. 42), and a blockhead (p. 45). With all these excellent gifts, Waltzemüller,—so Mr. Marcou affirms—was guilty of appropriating other men's labors (p. 32), played a pitiful part (p. 33), delayed the working off of the first sheet so as to change the text to his own advantage (p. 36), stole, or would have stolen, some copies (p. 37), and tried to fleece in a shameless fashion his associate Frenchmen of the Vosges (p. 40).

The true author of the passage which first applies the name of America to the New World was, if Mr. Marcou is right, Jean Basin, a Frenchman, or a native of Lorraine who spoke French (p. 47), an elegant poet, and a modest man (p. 32).

When we enter upon conjecture, we must remember that that field belongs to all. It is not a little surprising that Mr. Marcou, who has travelled as far as Greenland in his search for names in *ic*, should have overlooked the rich harvest waiting for him in Western and North-western France, where there must be forty or fifty places delighting in this termination. With a little ingenuity, a theory might be made to show either that Greenlanders

colonized France, or that Central America was first settled by Bretons and Frenchmen, who left behind them the name *Amerristiquique* or *Amerristiquiquic*, to be abbreviated in later days, and to become the cause of considerable wind. The suggestion will be enough for Mr. Marcou, who has already noted the impressive fact that French is the only cultivated language in which the name of the Western Continent is identical with the degraded Indian form *Amerrique*. There is more in this than meets the eye; and even the thoughtless reader recalls with mingled astonishment and awe Gibbon's somewhat similar remark on the identity of the name *Pierre* with the word for *rock* in the French version of the Allocution, "Thou art Peter;" though the historian's skeptical turn of mind kept him from following the hint to its logical conclusion that the French was the original text.

If Mr. Marcou were not so sure of his facts, it would not be easy to believe him when he says that the American plains and plateaux and mountains went without names in the 16th century.

The longer the assertion is considered, the harder it is to believe. One of two things must be true: either the mountains and plains and plateaux did not make their appearance until the year 1601, or Mr. Marcou is mistaken.

It may be admitted without hesitation, though it is not proved, that Waltzemüller was a mere printer, the foreman of the office and corrector of the press; and to admit this is to recognize that he must have been a man of unusual intelligence, and a scholar. Even to-day, when the conditions have been greatly modified, the foreman

of a printing-office, whatever else he may be, cannot be a blockhead, and in the 16th century the foreman was, of necessity, a scholar, familiar with Latin and with Latin writers, and often with Greek.

It is quite certain that no printer of those days could have made the blunder, which Mr. Marcou has repeated seven or eight times, of taking the ablative case *castigatore* for the nominative *castigator*. If, besides being a thief and a counterfeiter, and a German from beyond the Rhine, Waltzemüller was also a mere printer, Mr. Marcou's indignation against him is more than justified; but possibly there is some mistake. The evidence for this last dreadful charge is not conclusive. This evidence consists of a typographical mark at the bottom of the last page of the *Cosmographie Introductio*, in the shape of a rectangle, in which the following letters are arranged:

S.	D.
G.L.	N.L.
M.I.	

These letters Mr. Marcou translates: Saint Dié, Gauthier Lud, Nicolas Lud, Martinus Ilacomylus.

This interpretation is open to several objections. In the first place, it is a collection of names which tell nothing at all. There is neither verb nor object for a verb, and if, according to Latin usage, we understand a tense of the verb *sum*, we acquire the useless information that Walter Lud and Nicholas Lud and Martin Waltzemüller are, or were, at Saint Dié. Still another objection is

that Jean Basin, the genius who invented *America*, if Mr. Marcou is right, is left out of the inscription, and though we are told that Basin was modesty itself, the Luds, who were also constructively Frenchmen, would surely not have seen him wronged by a German pirate.

Weak as it is, this interpretation satisfies Mr. Marcou, and he has the right to accept it. To every one else the letters, read in their natural order, line by line, make the following complete statement and vindication of Waltzemüller's right as the author of the *Cosmographiæ Introductio*: "Sua Doctrina Germanus Librum Non Lotharingus Multiloquax Invenit:" "By his own learning the German, and not the babbling Lorrainer, made (invented) the book."

This rendering carries conviction with it. The generous and manly character of Waltzemüller would not allow him to say more than that Basin was a babbler. He makes no charge of bad faith against the Lorrainer.

Others may not be so generous, or so considerate. Why should there not rise up one day from the bones of Waltzemüller an avenger, to declare that Jean Basin was no better than he should be, that he was a Frenchman from this side of the Rhine, that he stole documents, that he was a pillager and a counterfeiter and a pirate? The person who should say these things would display very bad taste and a petty spirit, but he might seek to excuse himself by pointing out that he had said nothing against Basin which did not fall short of the unfounded charges made against Waltzemüller.

Mr. Marcou invites retaliation. His pamphlet is as barren of evidence as the article he published thirteen years ago.

His account of the French lambs and the German wolf in the Gymnasium at Saint-Dié is purely imaginary; but Waltzemüller, if a wolf, has the advantage of being in good company.

Mr. Marcou admits that Humboldt and M. d'Avezac are the two men who have studied with the greatest care the subject of the name given to the Western Continent; but he corrects M. d'Avezac for having done justice to the German from beyond the Rhine, and he thinks Humboldt made himself a little ridiculous when he traced the name America to a German source. The Italians, who do not agree with Mr. Marcou, are accused of national prejudice. Peter Martyr and Vespucci, he says, conspired together to change the name of the latter so that it might be made to agree with the *Amerrique*, which all the seamen of Europe were talking about,—so we are told,—though not one of them ever wrote it down. It was easy enough for Vespucci to carry out such a scheme, for he was a deep one (*tan fino*), the countryman of the Medici and of Machiavelli. Mr. Marcou does not add, though it is equally true, that Jacques Cartier was in like manner the countryman of Louis XI. and Olivier Le Dain.

Italian and German writers will be without excuse if they fail to profit by the lessons of impartiality and good taste and courtesy, so freely taught in the *Nouvelles Recherches*.

The three letters which follow are communicated by Gen. Geo. W. Cullum, to whom they were sent by Mr. Marcou, with liberty to publish.

MANAGUA, Dic. 2 de 1887.

SR. JULES MARCOU,

Muy Señor mío :—Oportunamente recibí la apreciable carta de V. de 23 de Julio último, y debo pedir á V. disimule mi tardanza en contestarla, pues no queria hacerlo sin dar á Vd. un informe positivo acerca de los datos que me pide, con relación á la ortografía del nombre de la Sierra de Nicaragua que yo aseguré al Sr. Peralta llamarse "*Amerisque*," por informes tal vez inexactos de las personas de quienes los obtuve, ó por corrupción del nombre primitivo, cosa que sucede frecuentemente en estos países.

No obstante haber buscado documentos impresos ó manuscritos que se refieran á dicha Sierra, ó tribu de indios, nada he encontrado escrito, porque, como lo manifesté al Sr. Peralta, la tribu que lleva ese nombre es hoy día insignificante ; ni existe recuerdo de que haya formado antes algun grupo de poblacion considerable. Tampoco he podido obtener informes mas detallados de los que comuniqué al Sr. Peralta ; sin embargo V. puede dirigirse, por medio de la Legación nicaragüense, al Señor Don J. D. Rodriguez, que ahora se encuentra en Washington, y puede dar á V. informes exactos sobre la posición de la Sierra, las condiciones actuales de los indios que llevan el nombre de "*Amerisque*," y sobre la ortografía del mismo por haber vivido largo tiempo en el Distrito de Chontales á que pertenece. Por lo demas creo muy probable que el nombre "*Amerisque*" sea una corrupcion de "*Amerique*," porque son muy fundadas las observaciones que V. hace de que los nombres terminados en *ique* y en *ic* son muy comunes en la América Central, como Erandique, Fecuantique, Cacahuatique, Lolotique, poblaciones indígenas de Honduras y del Salvador, fuera del de la Sierra de Lepaterique.

El hecho de que Vespuccio se llamaba "*Albericus*" y no "*Americus*" es argumento de mucho peso, en apoyo de la suposicion de que el nombre de América es un nombre indígena. No conozco las memorias que V. ha publicado sobre este importante asunto y no dude V. que las leeré con el mayor interés, si se sirve enviarmelas, lo mismo que su artículo en favor del Canal de Nicaragua, cuestion que, como V. habrá observado está próxima á resolverse en nuestro favor. Con muestras de distinguido aprecio quedo de V. muy Att^o S. Servidor,

AD. CÁRDENAS.

MANAGUA, Dec. 2, 1887.

MR. JULES MARCOU,

My dear Sir :—I duly received your kind letter of the 23d July last, and beg you to excuse my delay in answering, because I did not wish to reply without giving you positive information on the facts concerning which you inquire, with regard to the orthography of the name of the range in Nicaragua, called, as I wrote to Mr. Peralta, "*Amerisque*," from information, possibly inexact, given by the persons of whom I obtained it, or through corruption of the primitive name, a frequent occurrence in these regions.

Although I have made search for printed or manuscript documents relating to the said mountain range or tribe of Indians, I have found nothing, because, as I

explained to Mr. Peralta, the tribe which bears that name is at the present day insignificant, nor is there any recollection that it once formed a considerable population. I have failed also to find any fuller details than those which I communicated to Mr. Peralta. You may, none the less, address yourself through the Nicaraguan Legation to Mr. J. D. Rodriguez, who is now in Washington, and can furnish you with exact information as to the position of the range, the present state and condition of the Indians that bear the name of Amerisque, and concerning the orthography of the name itself. Mr. Rodriguez lived a long time in the District of Chontales, to which this name belongs.

For the rest, I think it very probable that the name *Amerisque* is a corruption of *Amerique*, because there is good ground for your observation that names ending in *ique* and *ic* are very common in Central America.

Such are Erandique, Fecuantique, Cacahuatique, Lolotique, native settlements of Honduras and of Salvador, besides the name of the Sierra de Lepaterique.

The fact that Vespuccio was called *Albericus* and not *Americus*, is an argument of much weight in support of the theory that America is an indigenous name. I am not acquainted with the memoirs which you have published on this important subject, and I shall read them, if you are kind enough to send them to me, with the greatest interest, as well as your article in favor of the Nicaragua Canal, a question which, as you will have seen, is near to being decided in our favor.

With the very highest regard, I remain,

Your most obedient servant,

AD. CÁRDENAS.

WASHINGTON, 29 de Diciembre de 1887.

PROFESOR JULES MARCOU, Cambridge, Mass.

Muy Señor mío:—Me pregunta V. en su carta de 24 del corriente mi opinion sobre si sea *Amerrique* ó *Amerisque*, la palabra aborigen que en Nicaragua designa una tribu indígena y una sierra en una parte de la cual habita esa tribu.

Mi amigo el ex-Presidente Cárdenas me dice V. haberle indicado, en carta escrita en Managua el 2 de este mismo mes, que se dirigiese á mi, que por mi larga residencia en el Distrito mineral de Chontales, podria responder satisfactoriamente á esa pregunta.

Debo decir á V. que dicha palabra pronunciada por la gente del pais, se oye *Amerisque* (con *s* entre la *i* y la *q*) y *Amerrique* (sin la *s*) de boca de los indígenas de la tribu á quienes yo he tratado. Esos indios parecen haber sido antes tribu poderosa.

A lo largo de la sierra en la llanura encuentranse lugares extensos que fueron un tiempo cementerios y que, á no dudarlo, les pertenecian. Es cierto que, al Sur, habitaban otras tribus en aquel territorio.

Ademas es fácil advertir que de muy antiguo han tenido comunicacion con la costa del Atlantico, cultivando probablemente la amistad de las que fueron belicosas tribus de los Moscos, que demoraban desde por Caratasca y el Cabo de Gracias á Dios hasta un poco al Sur de la Laguna de Perlas.

El día de hoy los *Amerisques* ó *Amerriques* son pocos sin que por el momento sepa yo dar explicacion satisfactoria de tal hecho. No son por nadie hostilizados y viven á sus anchas en su sierra, pero es evidente que no pasará largo tiempo sin que desaparezcan del todo, fundiéndose quizás en otras tribus.

En Nicaragua no conozco mas lugares con nombres terminados en *ique* ó *isque*. Los que V. menciona son de la República del Salvador, y quedan á muy larga distancia de Amerrique ó Amerisque.

El Señor Thomas Belt, á quien V. se refiere, debe de haber tenido ocasion de conocer la sierra é indios de ese nombre durante un viaje que hizo por la cordillera á Matagalpa y Segovia. Yo servi á las ordenes de ese caballero en las minas de Chontales y disfruté el honor de su amistad y su confianza.

Me alegraré de recibir la Memoria que V. me ofrece: y tendré mucho gusto en contestar las preguntas que V. quiera hacerme sobre la geografia de Nicaragua.

Mientras tanto ofreciendo á V. mis respetos quedo su

Atento Servidor,

J. D. RODRIGUEZ.

1026 17th St., N. W.

WASHINGTON, Dec. 29, 1887.

PROF. JULES MARC, U, Cambridge, Mass.

Dear Sir:—You ask me in your letter of the 24th inst. whether, in my opinion, *Amerrique*, or *Amerisque*, is the proper form of the native word which designates, in Nicaragua, an indigenous tribe and a mountain range, in one part of which the tribe dwells.

My friend, ex-President Cárdenas, you tell me, has advised you, in a letter written from Managua on the 2d Dec., to address yourself to me, because, from my long residence in the mining district of Chontales I could give a satisfactory answer to your inquiry.

I must inform you that the word in question, as pronounced by the people of the country, is sounded *Amerisque* (with an *s* between the *i* and the *q*), and *Amerrique* (without the *s*) in the mouths of the natives of the tribe, with whom I have conversed. Those Indians seem to have been formerly a powerful tribe. At a distance from the range, in the level ground, there are extensive spaces which were at one time cemeteries and undoubtedly belonged to these Indians.

It is certain that towards the South other tribes inhabited that region.

It is, moreover, easy to note that they kept up, from a very ancient date, a communication with the Atlantic Coast, cultivating probably friendly relations with the once warlike tribes of the Moscos, who held the country from about Caratasca and the Cape of Gracias á Dios to a little South of the Laguna de Perlas.

At the present day the *Amerisques* or *Amerriques* are few in number, but I do not feel able, at the moment, to give any sufficient reason for the fact.

They are not molested by any one and they live at their ease in their mountains, but it is evident that no long time will elapse before they disappear entirely, perhaps by absorption into other tribes.

I am not acquainted with any other places in Nicaragua which have names ending

in *ique* or *isque*. Those which you mention belong to the Republic of Salvador, and are at a very great distance from *Amerrique*, or *Amerisque*.

Mr. Thomas Belt, to whom you refer, must have had occasion to know the mountains and the Indians of that name during a journey which he made over the Cordillera to Matagalpa and Segovia. I served under the orders of that gentleman in the mines of Chontales, and enjoyed the honor of his friendship and confidence.

I shall be very glad to receive the memoir which you offer me, and I shall take much pleasure in answering the questions you may wish to put to me concerning the geography of Nicaragua.

In the meanwhile I am,

With much respect,

Your obdt. servant,

J. D. RODRIGUEZ.

1026 17th St., N. W.

WASHINGTON, 12 de Enero de 1888.

SEÑOR PROFESOR JULES MARCOU, Cambridge.

Muy Señor mío :—Hasta ahora no había tenido el gusto de corresponder á su apreciable carta del 4. Muchísimo interés me inspira la teoria de V. sobre el origen de la palabra *América*, creyendo que si V. logra establecerla definitivamente esto enaltecerá á mi Patria que tendria el honor de haber dado nombre al Continente descubierto por Colon. Su opúsculo sobre este particular lo he leído atentamente y se lo devolveré el día de mañana, pues un amigo mio lo está leyendo hoy. Siento en verdad que no me sea posible enviarlo á Nicaragua, para que lo reproduzcan los periódicos.

Puedo asegurar á V. que es enteramente gratuita la insinuacion atribuida al Señor Peralta de que el nombre *Amerrique* ó *Amerisque* haya sido inventado por mi difunto amigo el Señor Thomas Belt. Allí han estado en Nicaragua por siglos que no nos es posible determinar la sierra y tribu de los *Amerriques*, hechos que pueden verificarse á la hora que se quiera. Por lo demas, Mr. Belt era persona seria que no se habria prestado nunca á la supercheria.

Su otro opúsculo que es relativo á la cuestion de Canal interoceánico me ha parecido tambien muy importante, y voy á enviarlo á mi pais. Su opinion sobre el Señor de Lesseps parece muy justa, y los hechos están encargándose de confirmarla.

V. debe estar impuesto de que se agita activamente el proyecto de Canal por Nicaragua y que una Comision de Ingenieros, enviada por la Compañia Concesionaria ha comenzado los trabajos de la final localizacion de la ruta.

En Nicaragua estamos preparados á dar á la empresa de Canal todo el apoyo y prestarle todas las facilidades que estén en nuestro poder.

Rindiendo á V. las gracias por la fina atencion que me ha dispensado enviándome las dos Memorias á que me he referido y asegurándole que recibiré con agrado la que tiene la bondad de anunciarme saludo á V. y me reitero su

Atento servidor,

J. D. RODRIGUEZ.

WASHINGTON, Jany. 12, 1888.

PROF. JULES MARCOU, Cambridge.

Dear Sir :—Not till now have I had the pleasure of answering your esteemed letter of the 4th.

Your theory concerning the origin of the word *America* rouses a very great interest in me, for I believe that if you succeed in establishing it definitively, the fact will exalt my native land, which would in that case have the honor of having given a name to the continent discovered by Columbus. I have read attentively your little work on the subject and shall return it to you to-morrow, for to-day a friend of mine is reading it. I am really sorry that I cannot send it to Nicaragua to have it published in the journals.

I can assure you that the insinuation, ascribed to Mr. Peralta, that the name *Amerrique* or *Amerisque* was invented by my deceased friend, Mr. Thomas Belt, is an entirely gratuitous one. The mountain range and the tribe of the *Amerriques* have existed in Nicaragua for centuries which it is beyond our power to determine; and these facts may be verified at any moment. Moreover, Mr. Belt was a serious person, who would never have lent himself to a deception.

Your other work, which relates to the question of the Interoceanic Canal, has also impressed me as a very important one, and I am going to send it to my country. Your opinion of M. de Lesseps seems to be very just, and facts are taking it upon themselves to confirm it.

You are of course informed that the project of a Canal through Nicaragua is in vigorous movement, and that an engineering party, sent by the Company which holds the concession, has begun operations for the final determination of the route. We in Nicaragua are prepared to give the undertaking all the support and all the facilities in our power.

Thanking you for your delicate attention in sending me the two memoirs of which I have spoken, and assuring you that I shall receive with pleasure the one that you are so kind as to promise me,

I beg leave to say that I am, once more,

Your Obed't Serv't,

J. D. RODRIGUEZ.

WHO FIRST SAW THE LABRADOR COAST?

BY

A. S. PACKARD.

THOSE rovers of the northern seas, the Norsemen, pushing out from the fiords of Greenland in their one-masted craft, no larger than our coasters or mackerel boats, without doubt sighted and coasted along "the Labrador" nearly five centuries before John Cabot made his first land-fall of the American Continent.

The Labrador coast was not, however, the first American land visited by the Norsemen.*

Kohl states that New England was first discovered by Biarne, in 990. It appears that Heriulf, one of the earliest colonists of Greenland, had a son, Biarne, "who, at the time his father went over from Iceland to Greenland, had been absent on a trading voyage in Norway. Returning to Iceland in 990, and finding that his father, with Eric the Red, had gone to the west, he resolved to follow him and to spend the next winter with him in Greenland.

"They boldly set sail to the south-west, but having

* We should acknowledge that, not having access to the primitive sources in which the voyages of the Norsemen to the American shores are described, we have placed our dependence on the account given by a learned German geographer, J. G. Kohl, in his *History of the Discovery of Maine*, as the most authoritative exposition of early voyages and discoveries in north-western America. Kohl's views are based on Rafn's *Antiquitates Americane*. (*Documentary History of the State of Maine*. Collections of the Maine Historical Society. Second Series, Vol. 1, 1869).

encountered northerly storms, after many days' sail they lost their course, and when the weather cleared, they descried land, not, however, like that described to them as 'Greenland.' They saw that it was a much more southern land, and covered with forests. It not being the intention of Biarne to explore new countries, but only to find the residence of his father in Greenland, he improved a south-west wind, and turned to the north-east, and put himself on the track for Greenland. After several days' sailing, during which he discovered and sailed by other well-wooded lands lying on his left, some high and mountainous and bordered by icebergs, he reached Heriulfsnäs, the residence of his father, in Greenland. His return passage occupied nine days, and he speaks of three distinct tracts of land, along which he coasted, one of which he supposed to have been a large island."

So much for the facts taken from the Norse records and sagas. Dr. Kohl then goes on to say: "That Biarne, on this voyage, must have seen some part of the American east coast, is clear from his having been driven that way from Iceland by northerly gales. We cannot determine with any certainty what part of our coast he sighted, and what was the southern extent of his cruise. But taking into consideration all circumstances and statements of the report, it appears probable that it was part of the coast of New England, and perhaps Cape Cod, which stands far out to the east. One day and night's sailing with a favorable wind, was, in Iceland and Norway, reckoned to be about the distance of thirty German miles. Two days and 'nights,' therefore, would be sixty German miles, and this is about the distance from Cape Cod in New England to Cape Sable in Nova Scotia."

That the land first seen by Biarne was necessarily so far south as Cape Cod does not, we would venture to submit, follow from the facts we have quoted. Is it not more probable that the country was some portion of Nova Scotia, a land "as much covered with forests" as New England?

But Dr. Kohl maintains that the second land which was "well-wooded" was Nova Scotia. In his own words:

"The second country seen by Biarne must, then, probably have been Nova Scotia. The distance from Nova Scotia to Newfoundland is about three days' sail; and from Newfoundland to the southern part of Greenland, a Northman navigator, with fresh breezes, might easily sail in four days, and thus Newfoundland was probably the third country discovered by Biarne."

We should not have the hardihood to criticize Dr. Kohl's statements and conclusions, if we had not made two voyages to Labrador, in which we sailed from Cape Cod to Nova Scotia, skirted that coast, approached within a mile of Cape Ray, Newfoundland, and spent a summer on the northern shores of Belle Isle, opposite Newfoundland; and a second summer in coasting Labrador as far north as Hopedale. Hence the general appearances of the Nova Scotian, Newfoundland and Labrador coasts are, though in a slight degree, to be sure, known to us.

The records state that the southernmost land seen by Biarne was "covered by forests;" this would apply to Nova Scotia as well as to the coast of Massachusetts. It is then said that without landing, improving a south-west wind and steering north-east, "he put himself on the track for Greenland." This would be the course from Cape Cod to Nova Scotia it is true, but such a course

would also take him from the eastern end of Nova Scotia to Cape Race, Newfoundland, while from the present position of St. John's the course to the site of the Greenland Norse settlements is a northerly one.

As Kohl states, the distance from Nova Scotia to Newfoundland is about three days' sail; but the wind would have to be strong and fair all the time, for the distance from Halifax to St. John's, Newfoundland, is about 530 miles. A Viking's ship was by no means a modern cutter either in her lines or rig. We have seen in the Sogne fiord a vessel of forty or fifty tons, her hull clumsy and broad, with her single mast placed midships and carrying a square sail; her stern rather high, and her prow rising five or six feet above the bows. A Norwegian friend observed to me at the time, "There," said he, "hang the gunwale of that vessel with shields and fill her with armed men, and you would have a Viking's ship!" We doubt whether Biarne's craft could have made in "one day and night's sailing with a favorable wind," more than 138 statute miles, or thirty German miles. At such a rate it would take from five to six days to go from Halifax to St. John's, Newfoundland. The passage by a swift ocean steamer of the Allan Line requires from forty-two to forty-eight hours.

Passing by Newfoundland, which is well-wooded, except on the more exposed north-eastern coast, Biarne, sailing by a land "said to be high and mountainous, and bordered by icebergs, reached Heriulfsnäs." This land could have been none other than the Labrador coast from the mouth of the Straits of Belle Isle northward.

If Biarne's return passage occupied only nine days, he could not possibly have sailed from Cape Cod to

Greenland in that time. A nine days' trip from Boston to the Labrador coast at the mouth of the Strait of Belle Isle is a remarkably short one for an ordinary fishing schooner.

The distance from Boston to the Greenland coast a little north of Cape Farewell, where the southernmost Norse settlements were made, is about 2,300 miles. The southern coast of Labrador is about half way. The exact sailing distance from Thomaston, Maine, to Caribou Island, Strait of Belle Isle, Labrador, is 910 miles.

The "Nautilus," the vessel in which I first sailed to Labrador, was a staunch schooner of 140 tons. She sailed from Thomaston, Maine, June 27, and passing around Cape Breton, reached Caribou Island in ten days* (July 7th): after leaving our party on the Labrador coast, she set sail for Greenland July 9th, over nearly the same route as the Norsemen must have taken. From Captain Ranlett of the "Nautilus," I learn that he first sighted land on the coast of Greenland on the 17th, in lat. $62^{\circ} 58'$, and long. $52^{\circ} 05'$. The land first seen was about lat. $63^{\circ} 10'$, long. $50^{\circ} 45'$. This is about fifty miles south of Fiskernaes, and 25 miles north of Frederickshaab. The voyage to Greenland was thus made in about nine days, as the vessel did not reach land before the 18th. The return voyage from Godthaab to Bonne Esperance, Labrador (three miles west from Caribou Island), was made in twelve days. The "Nautilus" left Godthaab Aug. 13th, and entered the Strait of Belle Isle Aug. 24th, anchoring at Bonne Esperance Aug. 25th. Then sailing from Bonne Esperance Aug. 26th, owing to

* Rev. C. C. Carpenter writes me that he sailed in a fishing smack from Caribou Island Oct. 3d, and made the shores of Maine on the 13th.

calms and a storm she did not reach Thomaston until September 11th, a period of about fifteen days. It thus appears that the voyage from the mouth of the Penobscot river, Maine, to southern Greenland, through the Gulf of St. Lawrence, a shorter route than that of the Northmen east of Newfoundland, took nineteen days, not including the detention on the Labrador coast, while the return voyage from southern Greenland to Maine required 27 days.

In 1864 my second trip to the Labrador coast was made in a Wellfleet oysterman, a schooner of about 140 tons, built for speed, with long spars and large sails. She was probably the fastest vessel which ever visited the Labrador coast. The voyage from Boston to Mecatina Island on the Labrador coast, through the Gut of Canso, was made in seven days; it was probably the quickest voyage from Massachusetts to Labrador ever made. We ran from Provincetown to Port Mulgrave in the Gut of Canso in just forty-eight hours. The return trip from Caribou Island to Boston, a distance of about nine hundred miles, was made in nine days. The average was therefore just a hundred miles a day. How could a Norseman's clumsy craft of forty or fifty tons, with but a mainsail and a jib, outdo such sailing as that?

The Norse record says that Biarne's "return passage occupied nine days," and Kohl adds that "from Newfoundland to the southern part of Greenland a Northman navigator, with fresh breezes, might easily sail in four days. But we have seen that with fresh breezes a modern schooner, at least three times as large as a Viking's ship, required eight or nine days to run from a

point but a few miles from northern Newfoundland, *i.e.*, Belle Isle, to southern Greenland. The distance from St. John's, Newfoundland, to the Norsemen's colonies in southern Greenland is not less than 1500 miles. To perform a voyage of this length in four days would be an impossibility for a modern yacht. It is not impossible, however, that Biarne sailed from southern Newfoundland to Greenland in a period of about nine days. But a voyage from Cap Cod to Greenland by an ordinary schooner requires at least three weeks, or from twenty to thirty days at the most.

Instead then of accepting Kohl's summary of Biarne's voyage stated on p. 63 of his work, we should be inclined to believe, as the results of the expedition, that Biarne was the first European to sight the coast of Newfoundland, possibly the eastern extremity of Nova Scotia, while he also saw the mountainous, desolate, treeless, rocky coast of Labrador.

The next Norse adventurer, Leif, the son of Erik, not only sighted the Labrador coast but landed on it. To this country he gave the name of stony land, or "Helluland," a name perpetuated in an Iceland map of 1570 by Sigurd Stephanus.

The records tell us that Leif, the son of Erik the Red, the first settler in Greenland, having bought Biarne's ship in the year 1000, manned her with a crew of thirty-five men, among whom was Biarne himself, and followed Biarne's track towards the south-west. Kohl then says: "They came first to that land which Biarne had last seen, which, as I have said, was probably our Newfoundland. Here they cast anchor and went on shore, for their voyage was not the search of a son after

his father, but a decided exploring expedition. They found the country as Biarne had described it, full of ice mountains, desolate, and its shores covered with large flat stones. Leif, therefore, called it 'Helluland' (the stony land)."

Here again we should differ from Kohl as to Leif's first landfall. A south-west course would naturally carry him to the Labrador coast, while the description—"full of ice mountains, desolate, and its shores covered with large flat stones"—well describes the barren, rockbound, treeless coast of Labrador, in distinction from the much lower, wooded coast of Newfoundland. Moreover St. John's, Newfoundland, lies nearly due south of the southern extremity of Greenland.

While it is to be doubted whether Biarne ever went south of Newfoundland, we see no reason for disbelieving the conclusions of Rafn and Kohl, that the followers of Biarne, Thorwald and Thorfinn Karlsefne, became familiar with Cape Cod and wintered at Vinland. There is no reasonable doubt but that they landed on Nova Scotia and possibly left their runic inscriptions on the shores at Falmouth, Nova Scotia; there is no reason to disbelieve the records which state that they wintered farther west where no snow fell, so that the cattle found their food in the open fields and wild grapes were abundant, as they certainly are in Rhode Island and Southern Massachusetts, as compared with Maine or Nova Scotia.

Without reasonable doubt, then, Helluland of the Norse and Icelandic records is Labrador, though it is not impossible that the bare and rocky coast of north-eastern Newfoundland was by some regarded as Helluland. It would be easy for a vessel in those days to pass by the

opening into the Strait of Belle Isle, and, owing to the somewhat similar scenic features of the two lands, to confound the north-eastern extremity of Newfoundland with Labrador.

That, as some have claimed, the Norsemen ever sailed through the Strait of Belle Isle, coasted along southern Labrador and wintered at the mouth of the river St. Lawrence, is certainly not supported by the early Norse records as interpreted by Kohl.

Their vessels sailed to the seaward of Newfoundland. That they did not feel drawn to sojourn in Helluland is no wonder. Its coast presented no more attractions than Greenland, while the grapes, food and furs, with the verdure and mild winter climate of "Vinland the Good," led to one expedition after another, as late perhaps as 1347, when, according to the Icelandic annals, "a vessel, having a crew of seventeen men, sailed from Iceland to Markland."

Then came the decadence of Norse energy and seamanship, succeeded by the failure of the Greenland colonies, which were overpowered and extinguished by the Eskimo. A dense curtain of oblivion thicker and more impenetrable than the fogs which still wrap the regions of the north, fell upon these hyperborean lands, until, in 1497, the veil was again withdrawn by an English hand.*

Since the foregoing remarks were sent to the printer, Prof. E. N. Horsford's address at the unveiling of the statue of Leif Eriksen has appeared. He also adopts

* The voyage of Szkolney, the Pole, to the coasts of Greenland and Labrador, is stated to have been performed in 1476. See Humboldt, *Examen Critique*, ii. p. 152. (*N. A. Review*, July, 1838, 179.)

the general opinion that Helluland was Newfoundland, but the language of these extracts convinces us still more that Helluland was Labrador.

In the first translation printed by Prof. Horsford of the Saga of Erik the Red, it is stated in the account of the expedition of Biarne, that after leaving Iceland bound for Greenland, he missed that country and was "borne before the wind for many days, they knew not whither," finally approaching land which "was not mountainous, but covered with wood," with rising ground in many parts. Then sailing two days, and putting the ship about, leaving the land on the left side, he saw land again, "low and level, and overgrown with wood." This land was probably Newfoundland, perhaps the southern or eastern part. We would, however, contend that the next or third land which Biarne saw was Labrador, for the Saga reads: "At length they hoisted sail, and turning their prow from land, they stood out again to sea; and having sailed three days with a south-west wind, they saw land the third time." This land was high and mountainous, and covered with ice. They asked Biarne whether he wished to land here. He said, "No; for this land appears to me little inviting." Without relaxing sail, therefore, they coasted along the shore till they perceived that this was an island. They then put the ship about, with the stern towards land, and stood out again to sea with the same wind, which blowing up very strong, Biarne desired his men to shorten sail, forbidding them to carry more sail than with such a heavy wind would be safe. "When they had thus sailed four days, they saw land the fourth time." Towards evening they reached the very promontory not far north of Cape Farewell, where Heriulf, the father of Biarne dwelt.

The high, mountainous land, covered with ice, was probably Labrador near Cape Harrison, or along the coast to the northward, and a Norseman's vessel, with a strong, fair wind, could probably sail from that part of the Labrador coast to near Cape Farewell, a distance of a little over 600 miles, in four days, allowing that a viking's ship of about 60 tons could sail from 8 to 10 miles an hour under a spanking breeze. Certainly they could not have made the distance from any part of Newfoundland, which is about 900 miles, in four days.

From the account of the expedition of Leif Eriksen:

"All being now ready, they set sail, and the first land to which they came was that last seen by Biarne.

"They made direct for land, cast anchor, and put out in a boat. Having landed, they found no herbage. All above were frozen heights; and the whole space between these and the sea was occupied by bare flat rocks; whence they judged this to be a barren land. Then said Leif, 'We will not do as Biarne did, who never set foot on shore: I will give a name to this land, and will call it "Helluland," [that is, land of broad stones].'" Here again we have a much better description of Labrador than of Northeastern Newfoundland. From there Leif sailed to what he called Markland, or "Land of Woods," which may have been Southern Newfoundland, or Eastern Nova Scotia, or Cape Breton, as it is but two days' sail from the Gut of Canso to Cape Cod; and the Vinland of Leif was undoubtedly the shore lying east and south of Cape Cod.

From Mr. J. Elliot Cabot's translation of the Saga relating to Biarne's voyage

(Mass. Quart. Rev. 1849, quoted by Horsford), we take the following reference to Helluland. As before, on returning from the south, after turning the bow of his vessel from the land and sailing out to sea for three days with a W.S.W. wind, Biarne saw a third land; "but that land was high, mountainous, and covered with glaciers;" then the wind rose, and they sailed four days to Heriulfsness.

A.D. 999, Leif set sail. "First they found the land which Biarne had found last. Then sailed they to the land and cast anchor, and put off a boat and went ashore, and saw there no grass. Mickle glaciers were over all the higher parts; but it was like a plain of rock from the glaciers to the sea, and it seemed to them that the land was good for nothing. Then said Leif, 'We have not done about this land like Biarne, not to go upon it; now I will give a name to the land and call it "Helluland" [flat-stone land].'"

The north-eastern coast of Newfoundland is much lower, not mountainous, is somewhat wooded, with certainly more or less herbage on the outer islands and points. The rock formations are of later age than the Laurentian. We are familiar with the appearance of the Newfoundland side of the Strait of Belle Isle, which decidedly contrasts with that of Labrador opposite.

THE GEOGRAPHICAL EVOLUTION OF LABRADOR.

BY

A. S. PACKARD.

JUNE 24th, 1497, a year before Columbus discovered the American continent, the crew of a little vessel, the "Matthew," bound from Bristol on a voyage of discovery to ascertain the shortest line from England to Cathay, sighted land. The vessel was under the command of John Cabot, who was accompanied by his son Sebastian, a lad still under age, perhaps but nineteen or twenty years old. Sebastian kept the ship's log; but the narratives of this, as well as his other voyages, have been lost.

The land was called "Prima vista," and it was believed by Biddle and Humboldt, as well as Kohl and others, that this region which the Cabots first saw was the coast of Labrador in 56° or 58° north latitude. While the narrative of this momentous voyage has been lost, a map of the world ascribed to Sebastian Cabot, and engraved in 1549, contained an inscription, of which we will copy an extract translated in Hakluyt's Voyages (iii. 27).

In the yeere of our Lord 1497, Iohn Cabot, a Venetian, and his sonne Sebastian (with an English fleet set out from Bristoll) discovered that land which no man before that time had attempted, on the 24 of Iune about fivie of the clocke early in the morning. This land he called Prima vista, that is to say, First seene, because as I suppose it was that part whereof they had the first sight from sea. That Island which lieth out before the land, he called the Island of S. Iohn vpon this occasion, as I thinke, because it was discovered vpon the day of Iohn the Baptist.

The inhabitants of this Island vse to weare beast skinnes, and haue them in as great estimation as we haue our finest garments. In their warres they vse bowes, arrowes, pikes, darts, wooden clubs and slings. The soile is barren in some places, and yeildeth little fruit, but it is full of white beares, and stagges farre greater than ours." p. 27.

Kohl seems fully persuaded that the landfall of John Cabot was Labrador, because of the presence of white bears.* But if the inscription and map are genuine, the description of the inhabitants of the island, both men and beasts, would better apply to those of the eastern or southern coast of Newfoundland. The human beings were more probably red Indians than Eskimo. On the Labrador coast the soil is "barren" in all places, while the "stagges far greater than ours" may have been the moose, which then abounded and still exists in Newfoundland, and must have been rare, if it ever lived, on the coast of Labrador. Moreover the "white bears" spoken of as being so abundant may have been a white variety of the black bear, or perhaps the "barren ground" pale bear of Sir John Richardson may have been frequent in Newfoundland. It appears to have been of smaller size than the brown bear of Europe, because in *Parmenius'* account of Newfoundland, published in 1583, it is said, "Beares also appear about the fishers' stage of the countrey, and are sometimes killed, but they seeme to be white, as I conjectured by their skinnes, and somewhat lesse than ours" (*Hakluyt*).

On the other hand, the true white or polar bear may have frequently visited the eastern coast of Newfoundland, as it formerly abounded on the Labrador coast.

Moreover, nothing is said in the inscription of any

* "This agrees much better with the coast of Labrador than with that of Newfoundland, to which the white bears very seldom, if ever, come down." p. 133.

ice, which at that date, the 24th of June, so abounds from the Straits of Belle Isle northward to the polar regions. Besides, if we contrast the account of this voyage of the two Cabots in 1497, with that of the younger Cabot the following year, it seems plain that John Cabot's "Prima vista" was Newfoundland rather than Labrador.*

In May, 1498, Sebastian Cabot, under license of Henry VII., in command of two ships, manned with three hundred mariners and volunteers, again sailed to the north-west in search of Cathay. Kohl says: "We have no certain information regarding his route. But he appears to have directed his course again to the country which he had seen the year before on the voyage with his father, our present Labrador." Farther on he remarks: "The Portuguese Galvano, also one of the original and contemporary authorities on Cabot's voyage of 1498, says, that having reached 60° north latitude, he and his men found the air very cold, and great islands of ice, and from thence putting about and finding the land to turn eastward, they trended along by it, to see if it passed on the other side. Then they sailed back again to the south."

From this and other statements by Humboldt and D'Avezac, Kohl concludes that "Cabot in 1498, without doubt, sailed along the coast of Labrador and the western shores of Davis' Strait. Finally, after a struggle with the ice off the Cumberland peninsula in 67½° north latitude, where he probably lost a number of his men, he abandoned any further advance. He then retraced

* According to John Dean, LL.D., in the *Critical History of America*, vol. iii., John Cabot's landfall was the northern part of Cape Breton Island.

his course southward along the coast of Labrador, and probably came to anchor in some bay on the eastern coast of Newfoundland, where he rested his men and repaired the damage done to his vessels by the Arctic ice. His vessel was probably the forerunner of the fleet of English, Portuguese, Basque, French and Spanish fishermen which in the next two centuries visited those shores; opening to the old world a source of revenue more available than the fabled wealth of Cathay.

Still, dreams of the Indies led Cabot on southward, past Newfoundland, past Nova Scotia, along the New England shores, and probably southward near Cape Hatteras, with the hope of finding a direct passage to the East.

Although on their return from their first voyage of 1497, the Cabots believed that the land they had discovered was some part of Asia, to them must be given the credit of beholding the American continent before Columbus; while, with little or no doubt Sebastian Cabot beheld in July, 1498, the mainland of Labrador, for, says Hakluyt, "Columbus first saw the firme lande, August 1, 1498."*

English seamen, then, were the first to reveal to a world which had forgotten the deeds of the Norsemen the north-eastern shores of our continent, and to carry to Europe the news of the wealth of life in the seas of Newfoundland and the Bay of St. Lawrence.

The Cabots were of Italian origin, though Sebastian was born in Bristol. The English did not immediately follow up their discoveries, for the next explorer who ventured near if not within sight of the Labrador coast

* Kohl, p. 131, foot note.

was a Portuguese, Cortereal, who was commissioned by Emanuel the Great of Portugal, the same enterprising monarch who had previously sent out Vasco de Gama on his voyage around the Cape of Good Hope.

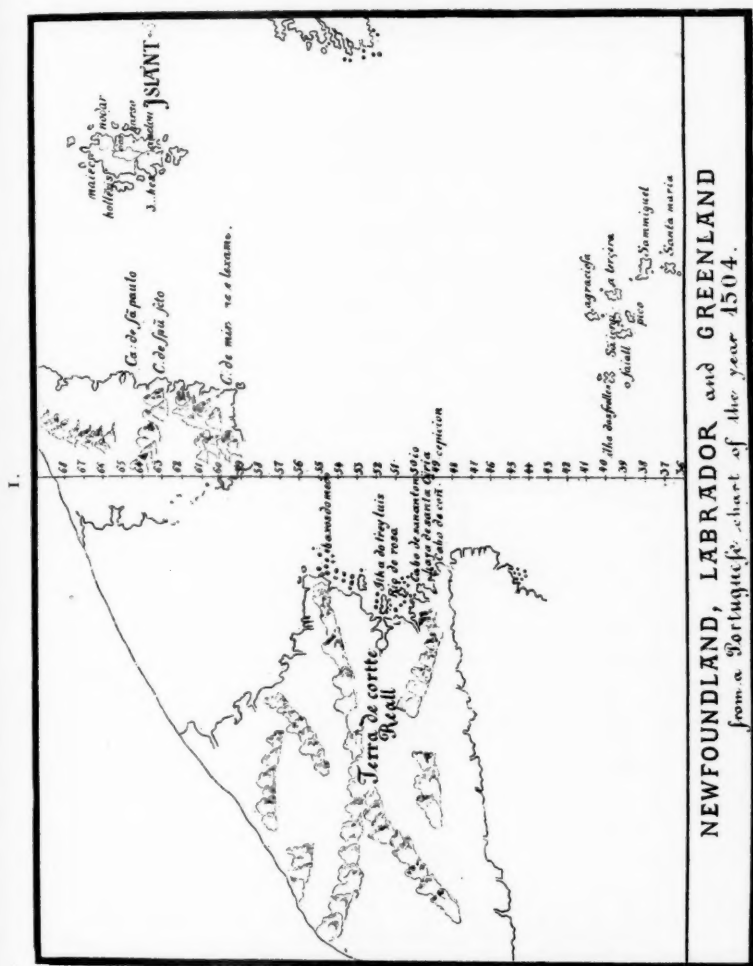
Cortereal sailed from Lisbon in the year 1500. His landfall was Newfoundland near Cape Race, or northward at Conception Bay. From this point he sailed northward, and probably discovered Greenland. He then came to the mouth of a river called by him "Rio nevado," which is supposed to have been near the latitude of Hudson's Strait. Here he is said to have been stopped by ice. He then sailed southward, resting on the east coast of Newfoundland, before returning to Lisbon.

The next year Cortereal returned to Newfoundland. He was unable to reach the northern regions on account of the ice, which was more abundant than the year before. On his return his vessel and all aboard foundered, the companion ship reaching Lisbon. The land Cortereal visited was mapped on a Portuguese Chart in 1504, and was called *Terra de Cortte Reall*." Kohl claims that "the configuration of the coasts, and the names written upon them prove, that parts of Newfoundland and of our present Labrador are the regions intended."

As yet the knowledge of Labrador was in embryo, Labrador and Newfoundland being a nebulous mass. In a Portuguese map of 1520, nevertheless, we have the name of "Lavrador," which however was applied to Greenland, while the Labrador coast and Newfoundland were confounded, and given the name "Bacalhaos."

But yet it is to the Portuguese that we owe the name

of Labrador. Kohl tells us that "King Emanuel, having heard of the high trees growing in the northern



countries, and having seen the aborigines, who appeared so well qualified for labor, thought he had found a new slave-coast like that which he owned in Africa; and dreamed of the tall masts which he would cut, and the men-of-war which he would build, from the forests of the country of the Cortereals."

The word Labrador is a Portuguese and Spanish word for laborer. On a photograph of a Mexican field-hand or peon, ploughing in a field which we lately purchased in Mexico, is written "Labrador." In a recent book on Cuba the author thus speaks of a wealthy Cuban planter: "He is, by his own account, a *Hijo de Labrador* (laborer's son) from Alava, in the Basque Provinces.* Cortereal's land was thus the "laborer's land," whence it was hoped slave laborers might be exported to the Portuguese colonies.

The Portuguese also, as is well known, applied to Newfoundland the name Bacalhaos which means dried codfish or stockfish.

As the result of Cortereal's voyage the Portuguese fishermen through the rest of the 16th century habitually visited the shores and banks of Newfoundland, and undoubtedly were more or less familiar with the Labrador coast, for Scandinavian authors report their presence on the Greenland coast. (Kohl, p. 190.)

In a foot-note to p. 197 of his "Pioneers of France in the New World" Mr. Parkman remarks: Labrador — *Laboratoris Terra*—is so-called from the circumstance that Cortereal in the year 1500 stole thence a cargo of Indians for slaves. That the "Indians" were captured on the Labrador coast, however, appears to be an inexact statement. There were probably then no red Indians or timber on the Labrador coast, but Cortereal must have entrapped them in Newfoundland or some place southward. Kohl [p. 169] tells us that "these Aborigines, captured according to the custom of the explorers of that day, are described, by an eye-witness who saw

* A. Gallenga. The Pearl of the Antilles, p. 100. 1874.

them in Lisbon, as tall, well built, and admirably fit for labor. We infer from this statement, that they were not Esquimaux from the coast of Labrador, but Indians of the Micmac tribe, inhabitants of Newfoundland and Nova Scotia." The editor of Kohl's work adds a quotation from the Venetian Pasqualigo, who says: "His serene majesty contemplates deriving great advantage from the country not only on account of the timber, of which he has occasion, but of the inhabitants, who are admirably calculated for labor, and are the best slaves I have ever seen."

The path opened by Sebastian Cabot was not only trod by Portuguese, but the Spanish,* Basques, French,

II.



(Bretons and Normans), and English, frequented the rich fishing banks of Newfoundland, and with little

* "The voyage of Estevan Gomez produced in Spain the same effect which those of the Cabots, of Cortereal, and of the men from Normandy and Brittany had produced in England, Portugal, and France—it conducted the Spaniards to the north-western fisheries." (Henry Hudson, by Ashler, Hakluyt Soc. p. xcix.)

doubt visited the Gulf of St. Lawrence and the southern coast of Labrador. Their discoveries were perhaps recorded in Gastaldi's map.

Labrador first became clearly differentiated from Newfoundland by Jacques Cartier. To him we owe the discovery of the Strait of Belle Isle; of Belle Isle, the *Isola De' Demoni* of earlier voyages; of Chateau Bay and other points on the Gulf coast of Labrador.

Sailing from St. Malo the 20th of April, 1534, he arrived May 10th on the eastern coast of Newfoundland, near Cape Buonavista. From this cape, Cartier pushed northward until he came to what is now called Fogo Island, which was one of the resorts of the great auk, or "penguin" of the early explorers. But we will let Cartier describe the scene which met his eyes in his own words translated by Hakluyt:

From "The first Relation of Iaquies Carthier of S. Malo, of the new land called New France, newly discovered in the yere of our Lord 1534."

"Vpon the 21 of May the winde being in the West, we hoised saile, and sailed toward North and by East from the Cape of Buona Vista vntil we came to the Island of Birds, which was enuironed about with a banke of ice but broken and crackt: notwithstanding the sayd banke, our two boats went thither to take in some birds, whereof there is such plenty, that vnlesse a man did see them, he would thinke it an incredible thing: for albeit the Island (which containeth about a league in circuit) be so full of them, that they seeme to have bene brought thither, and sowed for the nonce, yet are there an hundred folde as many hovering about it as within; some of the which are as big as iayes, blacke and white, with beaks like vnto crows: they lie alwayes vpon the sea; they cannot flie very high, because their wings are so little, and no bigger than halfe ones hand, yet do they flie as swiftly as any birds of the aire leuell to the water; they are also exceeding fat; we named them *Aporath*. In lesse then halfe an houre we filled two boats full of them, as if they had bene with stones: so that besides them which we did eat fresh, eury ship did powder and salt fife or sixe barrells full of them.

"Besides these, there is another kinde of birds which houer in the aire, and ouer the sea, lesser then the others; and these doe all gather themselves together in the Island, and put themselves vnder the wings of other birds that are greater:

these are named Godetz. There are also of another sort but bigger, and white, which bite even as dogs. those we named Margaulx.

"And albeit the sayd Island be 14 leagues from the maine land, notwithstanding beares come swimming thither to eat of the sayd birds: and our men found one there as great as any cow, and as white as any swan, who in their presence leapt into the sea; and vpon Whitsun munday (following our voyage toward the land) we met her by the way, swimming toward land as swiftly as we could saile. So soone as we saw her, we persued her with our boats, and by maine strength tooke her, whose flesh was as good to be eaten as the flesh of a calfe of two yeres olde."

Cartier then sailed north, entered the Strait of Belle Isle, anchoring at Blanc Sablon, still a settlement east of Bradore Bay.

"White Sand [Blanch Sablon] is a road in the which there is no place guarded from the south, nor south-east. But towards south-south-west from the saide road there are two Ilands, one of the which is called Brest Island, and the other the Iland of Birds, in which there is great store of Godetz, and crows with red beaks and red feete: they make their nests in holes vnder the ground euen as conies."

The great French navigator harbored in the ancient port of Brest, near these islands, the "Iland of Birds," being the present Parroquet island, fifteen miles eastward of the mouth of Esquimaux river.

Our voyager then coasted along these forbidding shores to St. James river, where he first saw the natives: "they weare their haire tied on the top like a wreath of hay." . . . they paint themselves with certain Roan colors; their boates are made of the barke of birch trees, with the which they fish and take great store of seales, and as farre as we could vnderstand since our comming thither, that is not their habitation, but they come from the maine land out of hotter countries, to catch the saide seals and other necessities for their liuing." These red men must have been the Mountaineer Indians, which still come down to the coast from the warmer interior each summer to fish for seal. Cartier makes no mention of the Eskimo, who would undoubtedly have been encountered if their roving bands

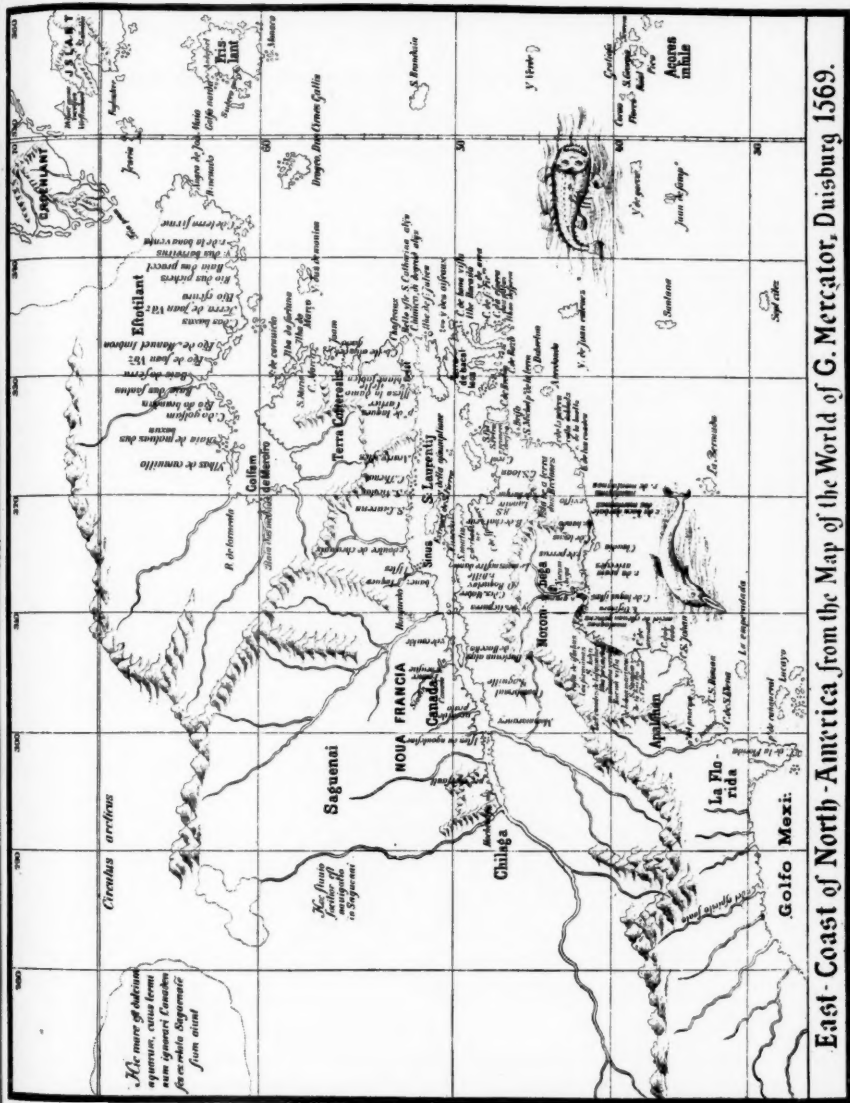
had been living on the coast from Chateau Bay to the Seven Isles, which he so carefully explored.

This coast appeared to Cartier so disagreeable, unproductive, and barren, that he exclaimed, "It ought to be the country which God had given to Cain." So he crossed the Strait of Belle Isle, sailed over to Newfoundland, coasted that island to Cape Anguille, which he reached on the 24th of June. From there he sailed over to the Magdalen islands, to the Bird rocks (Isles aux Margaulx), thence to Prince Edward's Island, thence to Miramichi, afterward to Gaspé Bay, and coasted Anticosti, crossing over again to near and within sight of the Mingan Islands. Not on this voyage discovering the river St. Lawrence, he finally turned homewards, coasting along the Labrador shore, touching at Cape Tiennot, now called Cape Montjoli. Thence he returned to France through the Strait of Belle Isle.

The next year Cartier returned, sailing again through the Strait of Belle Isle; and, coasting along the southern shores of Labrador, discovered the River St. Lawrence.

On his third voyage, Cartier entered the Gulf of St. Lawrence, passing in between Newfoundland and Cape Breton, thus for the first time demonstrating that Newfoundland was an island and not a part of the continent.

The next step in the geographical evolution of Labrador is seen in Mercator's great map of 1569. Kohl tells us that for the compilation of this map Mercator had collected many printed and manuscript maps and charts, and many reports of voyages of discovery. "But," says Kohl, "the best portion of Mercator's work, and a real and valuable improvement upon all former maps, is his delineation of the large peninsula of Labrador, lying



south-west of Greenland. On all former maps, that region was ill-shapen and most incorrectly drawn. But here, under the name of 'Terra Corterealis,' it receives its proper shape, with a full and just development, which had not been given to it on any map prior to 1569. He makes its eastern coast run south-east and north-west, as it really does from about 53° to 60° N. In the north he plainly shows the narrow entrance of Hudson's Strait, and at the west of it a large gulf, called by him 'Golfam de Merosro.' This remarkable gulf may be an indication of either Hudson's Bay or only the Bay of Ungava. I think that the latter was meant; first, because the 'Gulf of Merosro' has the longitude of the mouth of the River St. Lawrence, which is also the longitude of the Bay of Ungava; second, because the said gulf is represented as closed in the west. The western coast of the Bay of Ungava runs high up to the north, where Hudson's Strait is often filled with ice. This may have led the unknown discoverers, the informants of Mercator, to suppose that it was closed in the west. If they had looked round Cape Wolstenholm into Hudson's Bay, they would have perceived a broad bay and open water before them.

"Mercator does not indicate, so far as I know, the sources from which he derived these remarkable improvements for his chart, which were not known by Homem in 1558, and of which there are only slight indications on the Cabot map of 1544. He adopts the Portuguese names for his 'Terra Corterealis,' namely, 'Golfam de Merosro,' 'Y. dus Demonios,' 'Cabo Marco,' 'Ilha da Fortuna,' 'Baia dus Medaus,' 'Rio de Tormenta,' 'Ylhas de Caravillo,' 'Baia de Malvas,' etc. Some of

the names are not new, but had been long known, though not always put in the same position. We know of no official Portuguese exploring expedition made to these regions between the time of Homem (1558) and Mercator (1569); and therefore the suggestions of Dr. Asher, for the solution of this problem, have a high degree of probability. He says:* 'The Portuguese fishermen continued their surveys of the northern coasts,' commenced by Gaspar Cortereal in 1500, 'most likely for no other purpose than to discover advantageous fisheries. They seem to have advanced slowly, step by step, first along the shores of Newfoundland, then up to the mouth of Hudson's Strait, then through that Strait, and at last into Hudson's Bay,' or, as I think, into Ungava Bay. 'With a certain number of ancient maps, ranging from 1529 to 1570 before us, we can trace this progress step by step. In 1544,' the time of Cabot's map, 'the Portuguese seem not yet to have reached the mouth of the Strait; and in 1570,' or, as I think, 1569, the date of our Mercator's map,† 'they have reached the bay,' Hudson's, or at least Ungava Bay, 'We can, therefore, state with the greatest certainty, that Hudson's Bay,' Hudson's Strait as far as Ungava Bay, . . . 'had been discovered before the publication of Ortelius's atlas, which took place in 1570,' or, better, before the publication of Mercator's chart, which took place in 1569. 'But we are not equally certain, that the discovery falls within the years 1558 to 1570,' or, better, 1569, 'because we have only the negative evidence of Diego Homem's

* See G. M. Asher's *Henry Hudson*, Introduction, p. xevi., London, 1860.

† Dr. Asher does not mention Mercator's map of 1569. He had before him the map of Ortelius of 1570, who was only a follower and copyist of Mercator, but adopted his views.

chart to support the latter assertion. The fact itself is, however, probable enough."

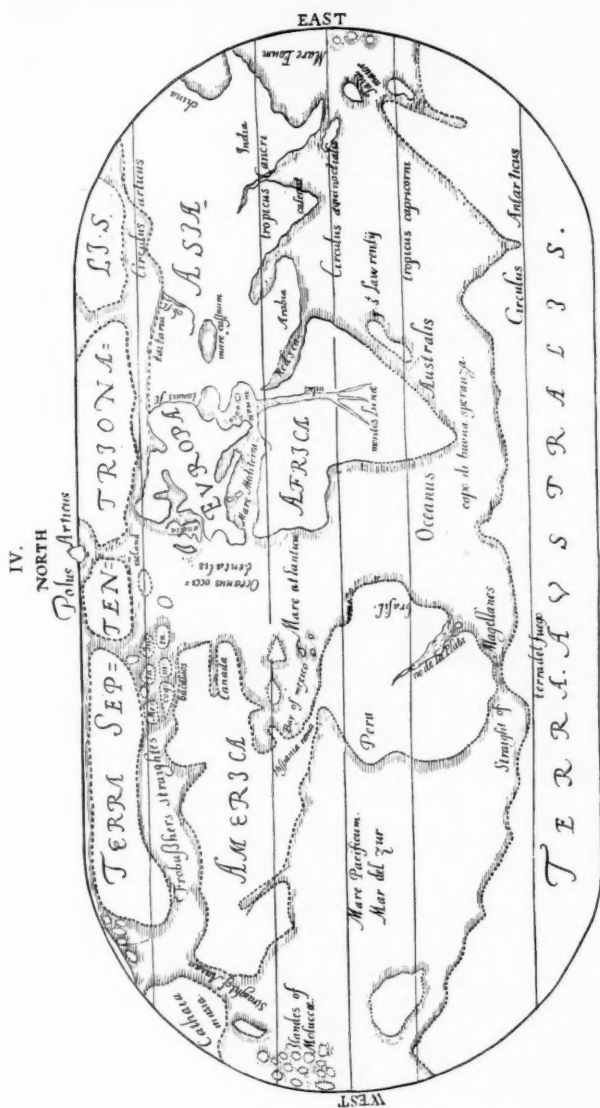
To the English navigators of the 16th and 17th centuries succeeding Cartier, we owe the next step in our knowledge of the geography of the Labrador peninsula.

In 1577 Master Martin Frobisher sighted the coast of Northern Labrador, which he called "Frisland," using a word which frequently appears in the early charts. The point he first sighted was probably north of 58°, for after coasting four days along the coast for perhaps a distance of nearly two hundred miles, a voyage of eight days, between the 8th and 16th of July, would carry him to Frobisher's Strait. Moreover his description of the coast applies well to the northern extremity of Labrador beyond Hopedale and Okkak.

The narrative reads thus:

"The 4. of Iuly we came within the making of Frisland. From this shoare 10. or 12. leagues, we met great Islands of yce, of halfe a mile, some more, some lesse in compasse, shewing above the sea, 30. or 40. fathoms, and as we supposed fast on ground, where with our lead we could scarce sound the bottom for depth.

"Here in place of odoriferous and fragrant smels of sweete gums, and pleasant notes of musicall birdes, which other Countreys in more temperate Zones do yeeld, wee tasted the most boisterous Boreal blasts mixt with snow and haile, in the moneths of Iune and Iuly, nothing inferior to our vntemperate winter; a sudden alteration, and especially in a place or Parallele, where the Pole is not elenate aboue 61. degrees; at which height other Countreys more to the North, yea vnto 70. degrees, shew themselues more temperate than this doth. All along this coast yce lieth, as a continuall bulwarke, and so defendeth the Country, that those that would land there, incur great danger. Our Generall 3. days together attempted with the ship boate to haue gone on shoare, which for that without great danger he could not accomplish, he deferred it vntil a more convenient time. All along the coast lie very high mountains couered with snow except in such places, where through the steepenes of the mountains of force it must needs fall. Foure days coasting along this land, we found no signe of habitation. Little birds, which we judged to haue lost the shoare, by reason of thicke fogges which that Country is much subiect vnto, came flying into our ships, which causeth us to suppose, that the Country is both more tollerable, and also habitable within, than the outward shoare maketh shew or signification.



Polus Antarcticus
SOUTH
MAP SHOWING FROBISHER'S DISCOVERIES.

"From hence we departed the eight of Iuly; and the 16. of the same, we came with the making of land, which land our Generall the yeere before had named the Queenes foreland, being an Island as we iudge, lying neere the supposed continent with America; and on the other side, opposite to the same, one other Island called Halles Isle, after the name of the Master of the ship, neere adiacent to the firm land, supposed Continent with Asia," (p. 57.)¹

In Rundall* we find it stated that "Frobisher now left to himself, altered his course, and stood to the S.W.; and, seventeen days afterwards, other land, judged to be LABRADOR, was sighted in latitude 62° 2' N." (p. 11). In this latitude, however, lies Meta Incognita.

"The great cape seen [by John Davis] on the 31st was designated, it is stated, WARWICK'S FORELAND; and the southern promontory, across the gulf, CAPE CHIDLEY.² On this Fox observes: "*Davis and he* [Waymouth, a later navigator] *did, I conceive, light* Hudson into his Streights." The modern authority before cited expresses a similar opinion; and there is no reason to doubt the fact.

"From Cape Chidley a southerly course was taken to seek the two vessels that were expected to be at the fishing ground; and on the 10th, in latitude 56° 40', they had a *frisking gale* at west-north-west." On the 12th, in about latitude 54° 32', an island was fallen in with which was named Darcie's Island. Here five deer were seen, and it was hoped some of them might be killed, but on a party landing, the whole herd, after being twice coursed about the island, 'took the sea and swamme towards ilands distant from that three leagues. They swam faster than the boat could be pulled, and so escaped. It was represented that one of them 'was as bigge as a good prety cowe, and very fat, their feet as big as oxen feet.'

"The 13th, in seeking a harbour, the vessel struck on a rock and received a leak: which however, was mended the following day, in latitude 54°, 'in a storm not very outragious at noone.' On the 15th, in latitude 52° 40', being disappointed in their expectations of finding the *Elizabeth* and *Sunshine*, or of finding any token of those vessels having been in the vicinity, and there being but little wood, with only half a hogshhead of fresh water on board, it was determined to shape the course homeward for England. This was accordingly done, and they arrived on the 15th of September in Dartmouth, 'giving thanks to God' for their safe arrival." p. 49.

¹ "The second voyage of Master Martin Frobisher, 1577, written by Master Dionise Settle. Hakluyt, vol. III., New Edition, London, 1810."

* Narratives of Voyages towards the North-west in search of a passage to Cathay and India. 1496-1631. By Thomas Rundall, Esq., London, Hakluyt Society, 1849. 8°, pp. 259.

² "The worshippfull M. John Chidley, of Chidley, in the countie of Deuon, esquire," was apparently chief promoter of an expedition which sailed Anno 1589, for "the Province of Arauco on the coast of Chili, by the streight of Magellan." Of this expedition M. Chidley was also the General. Hakluyt, iv. 357.

But it is to Davis, after whom Davis Strait was named, that we owe the most exact knowledge of the Labrador coast, until modern times. The following extracts contain all that we can find regarding his exploration of the Labrador coast.

Davis, in the *Moonshine*, left Greenland in latitude $66^{\circ} 33'$ Aug. 1st, 1586. "She crossed the strait in nearly a due westerly direction. The 14th of August she was near Cape Walsingham, in latitude $66^{\circ} 19'$, on the American side. It was too late for anything more than a summary search along the coast. The rest of the month, and the first days of September, were spent in that search. Besides the already known openings, namely, Cumberland Strait, Frobisher's Strait, and Hudson's Strait, two more openings were found, *Davis' Inlet* in 56° , and *Ivuctoke Inlet* in $54^{\circ} 30'$. Davis' men had to cross the Atlantic in his miserable craft, and he performed the voyage through the equinoctial gales in little more than three weeks. He reached England again in the beginning of October, 1586." (Henry Hudson, cxv.)

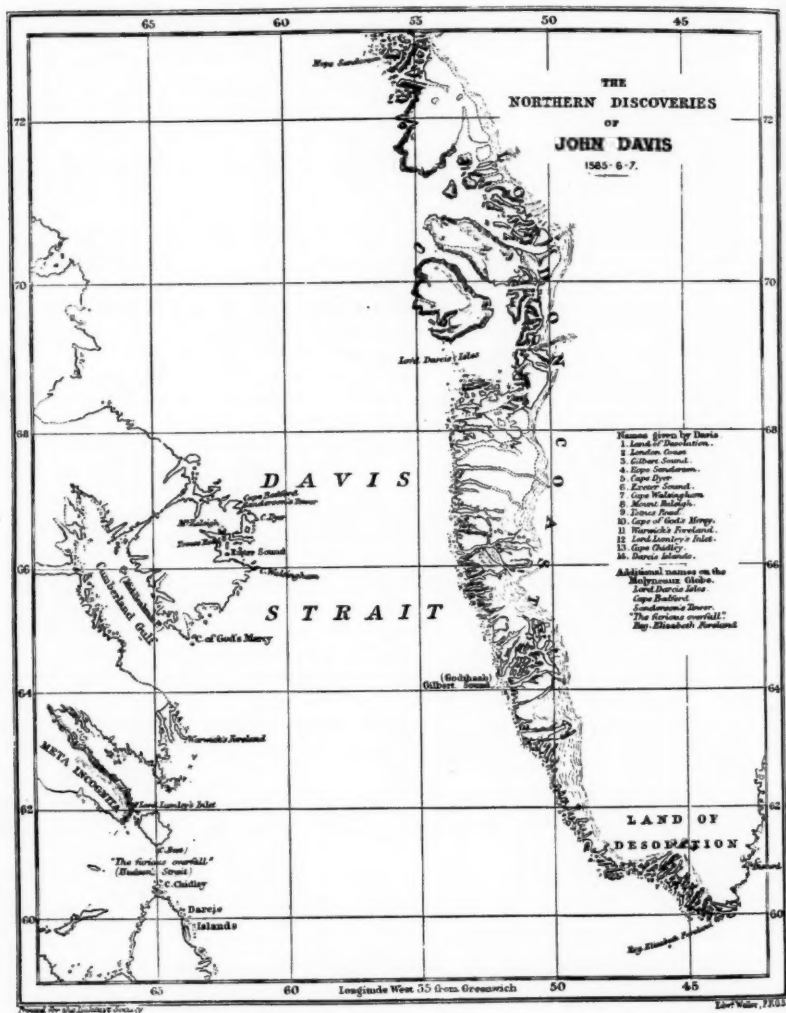
Davis was followed by Waymouth in 1602. According to Rundall :

"From the 5th to the 14th of July, the navigator appears to have been ranging along the coast of Labrador, where, on the 10th, variation $22^{\circ} 10'$ W., he saw many islands. On the 15th he was in latitude $55^{\circ} 31'$, variation $17^{\circ} 15'$ W.; and the day following saw 'a very pleasant low land, all islands,' in latitude N. 55° , variation $18^{\circ} 12'$ W. On the 17th he entered, and sailed up, an inlet for thirty leagues, in sanguine hope of having found the desired passage; but he was doomed to disappointment. In this inlet, which has been identified with Sleeper's Bay on Davis' Inlet, Waymouth encountered his last peril, and escaped in safety. The fly-boats were assailed by a furious storm, which terminated in a whirlwind of extreme violence, that rendered them, for a while, completely unmanageable; and though very strongly built, they took in so much water, for want of spar decks, that they narrowly escaped being swamped. As soon as the weather cleared up, the course was shaped for England." p. 68.

The Labrador coast was next seen by Master John Knight, who sailed April 18, 1606, from Gravesend in the *Hopewell*.

"After a most tedious and uninteresting passage, the vessel arrived off some broken land, in latitude $56^{\circ} 25'$ N.: much ice driving to the southward. The wind was fresh and the commander made fast to a piece of ice; but falling calm, he endeavored to row in between the masses. This was an unfortunate attempt. The

V.



weather became thick and foggy, and a furious storm arose on June 14: they were driven about in the ice. Lost sight of land till the 19th, when it is described as being seen again, rising like eight islands in latitude $56^{\circ} 48' N.$, variation $25^{\circ} W.$ The vessel was then taken into a cove, and made fast by hawsers laid out on shore. On June 26th. Capt. Knight, his mate and three hands set out, well armed, to explore a large island. They disappeared, having probably been killed by the natives.

"On the night of the 29th, 'they were attacked by savages, who set on them furiously with bows and arrows; and at one time succeeded in obtaining possession of the shallop. However, the eight mariners, with a fierce dog, showed a resolute front, and the assailants, upward of fifty in number, were finally driven off. The savages are represented to have been 'very little people, tawny colored, thin or no beards, and flat-nosed.' They are also described as being 'man-eaters;' but for this imputation there appears to be no warrant, except in the imagination of the parties on whom the attack was made."

On the 4th of July, the vessel was in great danger of foundering, the craft leaking badly.

"Shaping their course towards Newfoundland, with a strong current in their favour, they made Fogo on the 23d of July. At that place they were most hospitably entertained. Having refitted, they left on the 22d of August full of grateful feelings towards their generous friends; and arrived at Dartmouth on the 24th of December." pp. 75, 76.

In 1610 Henry Hudson discovered the Strait which bears his name, his discoveries being recorded in the accompanying map, copied from the volume on Henry Hudson, published by the Hakluyt Society.

In the narrative of the Voyage of *Sir Thomas Button* (1612-13) we find the following reference to Cape Chidley.

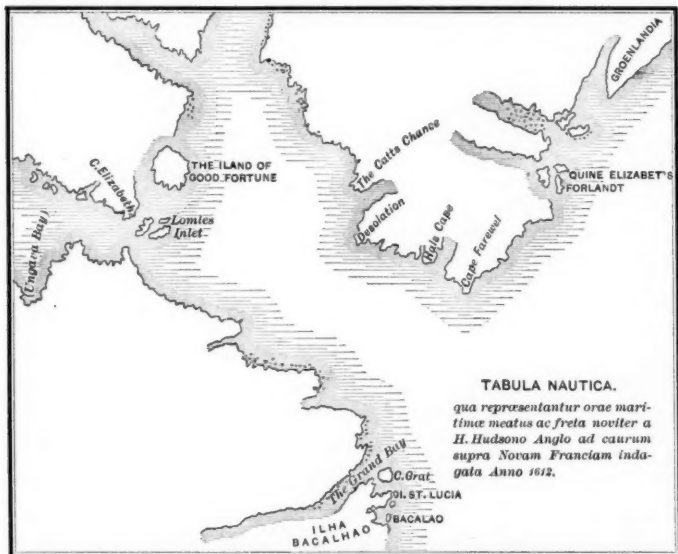
On this part of the voyage, the following remarks are reported, by Fox, to have been made by *Abacuk Prickett*. "He saith, they came not through the maine channell of *Fretum Hudson*, nor thorow *Lumley's Inlet*; but through into the *Mare Hyperborum* betwixt those Ilands first discovered and named Chidley's Cape by Captain Davis, and the North part of *America*, called by the Spaniards, who never saw the same, *Cape Labrador*, but it is meet by the N. E. point of *America*, where was contention among them, some maintaining (against others) that them Ilands were the *Resolution*," etc. p. 89.

Captain Gibbons in 1614, appears to have been detained for some months on the Labrador coast.

Of the result of the voyage, all that is known, says Asher, is thus laconically communicated by Master Fox: "Little," he says, "is to be writ to any pur-

pose, for that hee was put by the mouth of *Fretum Hudson*, and with the ice driven into a bay called by his company GIBBONS HIS HOLE, in latitude about 57° upon the N. E. part of *Stinenia*, where he laid twenty weeks fast amongst the ice, in danger to have been spoyled, or never to have got away, so as the time being lost, hee was inforced to returne." The bay in which Gibbons was caught, is supposed to have been that now called NAIN, on the coast of Labrador. p. 95. (*Arctic Voyages* p. 205.)

VI.



MAP OF HENRY HUDSON'S DISCOVERIES—HAKLUYT SOCIETY.

A summary mention of the early voyages we also find in the records of the Hakluyt Society:

"*Hudson's Strait* had been discovered by Sebastian Cabot in 1498. The Portuguese had sailed through it and had become acquainted with part of Hudson's Bay between 1558 and 1569. In 1577 Frobisher had by chance entered the strait. In 1602 Weymouth had sailed nearly a hundred leagues into it, from Hatton's Headland to the neighborhood of Hope's Advance Bay.

"The whole east coast of North America from 38° north to the mouth of Hudson's Strait, had been surveyed by Sebastian Cabot in 1498, and part of it before,

in 1497, by his father and him. Others had rediscovered various parts. Thus the east of Newfoundland had been explored by Cortereal in 1501; the south coast, by some fishers from Normandy and Brittany in 1504 and 1508. The mouth of the St. Lawrence had also been visited by Cortereal and by these French mariners. The river, nearly up to the lakes, and all the surrounding country, had been thoroughly explored by Jacques Cartier in 1534 and 1535, and afterwards by Roberval and Cartier.

"The *Sandbanks near the mouth of the St. Lawrence*, and the fishing stations along the Newfoundland coast, were frequented by the English, Portuguese, French, and Spaniards." H. Hudson, Hakluyt Soc. cxliv.

After Henry Hudson's voyage, no further explorations were made of the Labrador coast, so far as we can ascertain, until the time of rear-Admiral Bayfield, of the British Navy, who, during the years 1815 to 1827, surveyed and mapped this coast as well as the Gulf of St. Lawrence and Newfoundland. His researches are embodied in the English Admiralty charts, from which the maps of the Labrador peninsula in use up to about 1880 are copied. Of the advances lately made by British and Moravian surveys mention has previously been made.

To most readers the Labrador coast is still a *Meta Incognita*, an *Ultima Thule*, a land of mystery, shrouded by fog and gloom. The ordinary knowledge of it is as vague and indefinite as in the times of Cabot. The period when accurate charts of this intricate coast with its tens of thousands of islands, skiers and ledges will be made, seems far distant. Local pilots and fishermen from Newfoundland, Nova Scotia, and at times from the United States, with an occasional Newfoundland or Canadian steamer ply over regularly beaten routes, but owing to the lack of commercial interest in these barren, almost deserted shores, the coast will for years still remain well nigh beyond the pale of modern interests and thoughts.

In time the Indian and Eskimo will be a people dead and forgotten. The Moravian settlements will be abandoned. Already, owing to the decrease in the cod fishery, famine and want are slowly but surely reducing by removal and death the numbers of the lingering white population, and the coast will be still more desolate and lonely than now.

And yet this coast stands like a protecting, guardian wall between the frozen north, and the more temperate, inhabitable regions south and west. Its unexplored bays and rivers will always remain full of interest to our adventurous yachtsmen, as well as to the naturalist and traveller.

TIERRA DEL FUEGO AND THE SAHARA.

[A Communication addressed to the President of the American Geographical Society by MR. E. REUEL SMITH, of New York.]

THE interesting notes which follow relate to the climate and physical conditions of Tierra del Fuego and the Sahara, and are taken, for the most part, from Molina's *Saggio sulla Storia Naturale del Chili*, and from the work of Gen. Daumas, *Le Grand Désert*. They were submitted in a more extended form to President Daly, as illustrative of the passages in his Annual Address which treat of those widely separated regions, and he has now, with the writer's consent, kindly furnished them for publication.

In a note, p. 33, lib. I., of the Italian edition (1782), Molina says :

“The opinion concerning the excessive cold of the southern extremity of America is so strongly established that it would seem like temerity to wish to contradict it.

“Nevertheless, allow me to propound certain doubts in regard to a point so universally admitted. Commodore Byron, at the very time that he is comparing the temperature of the Magellanic summer to the mid-winter climate of England, describes the region as follows : ‘All that point (Sandy) is covered with wood ; we found springs of fresh water, and the trees and verdure offered for a distance of four or five miles a very agreeable prospect.

“‘Beyond the point the country is level and appar-

ently fertile; the ground was covered with flowers, which filled the air with a delicious perfume. We found a prodigious quantity of seeds of different kinds. . . . In the midst of this smiling prairie enamelled with an infinity of flowers appeared many hundreds of birds . . of brilliant plumage. . . . We passed for twelve miles along the borders of this beautiful country, etc. . . The banks of the Sedger are clothed with large and superb trees, and I doubt if any taller can be found. Among them are some of more than eight feet in diameter, which is more than twenty-four feet in circumference.

“Pepper and cinnamon (Wintereana) are here very common. These fine trees, despite the rigors of the climate, were enlivened by the presence of innumerable flocks of parrots and other birds of magnificent plumage. . . .

“From this port (Famine) to Cape Forward (about four leagues) the country is as pleasing as possible . . in places covered with flowers in no way inferior to those cultivated in our gardens, either in variety, color, or fragrance.” *Voy. of Hawkesworth, Tom. I., Chap. 4.*

The foregoing refers to the northern shore of the Straits . . . and Molina continues:

“This description is true, and conforms to the accounts of other voyagers in these parts. But could so exuberant and so smiling a vegetation ever exist in a climate so excessively cold? Would the parrot, so fond of warmth, voluntarily remain in a clime condemned to a perpetual winter?

“If, then, the summer is so rigid as to be compared to the midwinter of England, what idea must we form of the Magellanic winters?

"But the cinnamon is found in abundance not only on the northern shore of the Straits, but, according to Cook in his Second Voyage, in Tierra del Fuego, where (though unable to resist the winters of England) it thrives prodigiously under the open sky. . . I do not question the truth of the misfortune that befel Banks and his crew in Tierra del Fuego, but this isolated fact is not sufficient to establish a theory. . . The crew of the *Concepcion* passed an entire winter there in 1766 without any such disaster." And he concludes:

"The Emperor Julian spoke of the climate of France, then wooded and uncultivated, in the same terms now used to describe the cold of the Magellanic regions."

I have not attempted (says Mr. Smith) to verify the quotations given by Molina, but in Capt. Cook's Second Voyage, under date 29 Dec., 1774, I find:

"We steered for Le Maire's Strait, between Tierra del Fuego and Staten Island. . . Here the land sloped down from the hills into long level points covered with tall forests, and no snow was to be seen except on the distant western mountains. We entered the Straits the next morning, but were becalmed. . . Success Bay lay open to our eyes, and the country about it looked so rich and fertile that we heartily wished to make some stay there."

Elsewhere Molina speaks of his personal experience:

"I myself in June, 1768, navigated those waters as far as latitude 61° S., without finding the slightest indication of freezing, and, though it snowed with much frequency, the cold did not exceed what we are accustomed to feel in Bologna during the winter season."

Mr. Smith's recollections of the voyage round Cape

Horn confirm this report; and his inquiries during a visit to Algeria in 1855 led him to entertain the opinion that the Great Desert was not a waste of sand.

Arabs who had frequently crossed to the country of the Blacks, assured him that for several months in the year the Sahara abounded with pasture, which disappeared only in the summer heats. The sandy tracts, it was even then well known, formed an exception to the general character of the soil, which possessed every element of fertility but water.

Mr. Smith quotes from Gen. Daumas (*Le Grand Désert*, Paris, 1856), several statements to the same effect, and makes an abstract of the itinerary of a Tuareg slave-dealer to the Kingdom of Haoussa, as given in detail to Gen. Daumas. The journey, begun in September, lasted, with intervals of delay for slave-hunting, until the following March, the actual time on the road being set down at fifty-four days. Pasture was found almost every day, and there were but nine days when water was not to be had. Sand is mentioned on eleven of the travelling days. The party constantly met with encampments of tribes with their camels, asses, sheep and goats. Game, such as gazelles, hares, rabbits, partridges, etc., abounded in many places; and in the mountains, which the caravan had frequently to cross, there were many trees, and the rain sometimes fell in torrents. There were towns along the route with groves of date palms, and gardens full of fine fruits and vegetables.

GEOGRAPHICAL NOTES.

THE NAME OF AMERICA.—This Society has received from Mr. T. H. Lambert, who has in person declared himself to be the author of the work, a thick pamphlet, which bears on the cover the following words :

“Abridged Popular Edition.

“Discovery of the Origin of the Name of America.—The most illustrious Aboriginal National Name of the Continent, First written on Maps, by the Cartographer of Charles V. [from an Address by the Author, before the American Geographical Society].

“*‘The native Amaracan roads,’ says the Baron de Humboldt, ‘are the most useful and stupendous works ever executed by man.’*

NEW YORK, 1888.”

The title-page of this pamphlet reads: “Discovery of the Origin of the Name of America by Thomas de St. Bris”; and the work is copyrighted, presumably by the author, since there is no publisher’s name, by Thomas Byrne.

Mr. Thomas de St. Bris and Mr. T. H. Lambert, and, possibly, Mr. Byrne, are, therefore, one and the same person; but when Mr. de St. Bris affirms that his work is “from an Address by the Author before the American Geographical Society,” he mistakes his own identity.

Nothing is known of an address by a person of that name.

Mr. T. H. Lambert did read before this Society, in the year 1883, a short paper on the "Origin of the Name of America," and there is a family likeness between this paper and the larger work, of which Mr. de St. Bris is the author, though Mr. Lambert claims it for his own. If Mr. de St. Bris really wrote the work, Mr. Lambert has every reason to be satisfied; and if, on the other hand, Mr. Lambert is the author, Mr. de St. Bris is to be congratulated.

To correct the author's errors would be to rewrite his book, but one or two points must be noticed.

The passage printed in italics on the cover of Mr. de St. Bris's, or Mr. Lambert's, work, makes Humboldt speak of the *Amaracan* roads in an absolute way, very unusual with him. It ought to have been shown where and how Humboldt had used the words attributed to him. The quotation was made, no doubt, from memory, but memory is sometimes at fault, and it is always a satisfaction to the reader to have the reference.

There is in the *Vues des Cordillères*, p. 294, a sentence somewhat like the one given by Mr. Thomas de St. Bris. It reads: "*Le grand chemin de l'Inca, un des ouvrages les plus utiles, et en même temps des plus gigantesques, que les hommes aient exécuté, est encore assez bien conservé entre Chulucanas, Guamani et Sagique;*" and seems to mean in English: "*The great road of the Inca, one of the most useful and at the same time one of the most gigantic works constructed by man, is still in fairly good preservation between Chulucanas, Guamani and Sagique.*"

This passage, as far as the word *exécuté*, is correctly given by Prescott (Peru, Vol. I., p. 67, *note*), with a free translation, which has become still freer in passing through the mind of Mr. Thomas de St. Bris.

The "Discovery of the Origin of the Name of America," is intended to prove that *Amaraca* or *Amarca* was the native name of what has been called the Peruvian Empire, invaded and conquered by the Spaniards in the 16th century, and that the word *America* is but a modification of this aboriginal name, which is found, almost unchanged, in Caxamarca, Cundinamarca, Pultimarca, and other South American names; and this word *Amaraca* or *Amarca*, is said to mean various things, more or less directly related to the sun-worship of the Peruvians. It follows, naturally, that Mr. Thomas de St. Bris rejects the historical account of the word *America*. It is for him to choose what he will accept; but those who look over his pamphlet must feel that his theory supplies nothing. His etymologies are less clear than they might be, and, according to Mr. Clements R. Markham, a competent Quichua scholar, the word *marca* in Peruvian names means simply a *tower* or *house* (Travels of Pedro de Cieza de Leon, Pt. I., p. 271, *note*. Hakluyt Society Publications).

It is, perhaps, better for most men to refrain from entering on the flowery and also thorny paths of etymology; and, with or without etymology, the subject treated by Mr. Thomas de St. Bris and by some other writers has no great importance in itself.

It is a matter of indifference whether the name *America* comes from the East or from the West, and the sufficient rule for students of history is that a credible

contemporary statement of fact is to be preferred to even the most ingenious theory. If this principle is set aside, records cease to have any value; as Archbishop Whately showed when he succeeded in proving, for a purpose, that there never had been any such person as Napoleon Bonaparte.

COLONASIA.—Mr. Arturo Baldasano y Topete proposes, in the *Boletín* of the Madrid Geographical Society for Jan.—March, 1888, that the American nations unite in declaring that, from the year 1892, the name of the Western Continent shall be Colonasia. This word will, he believes, perpetuate the glory of Columbus and at the same time recall the fact that the Admiral believed he had reached in the West the far-away shores of Asia.

Nothing could be more appropriate than such a declaration, solemnly made by the nations of the New World; but would the Old World abide by the declaration? Other difficulties suggest themselves.

If it is just and right to name the Western Continent after Columbus, it is equally just and right to name Mexico after Cortés, and Brazil after Pinzon or Cabral, and the Amazon after Orellana, and the Mississippi after de Soto, and England after Cæsar, or Hengist and Horsa. Once entered on a road so full of delight, there will be no stopping at any one point, and the energies of mankind will be wholly absorbed in the pleasing but profitless task of rebaptizing the world. Considering, moreover, the stolid indifference of most men to the ideal fitness of the names they are in the habit of using, it may be better to postpone the proposed declaration to the year 1992, by which time the older and duller generation

of Americans will have passed away and left a free field to Mr. Baldasano and the Colonasiatics.

DISCOVERY AND EXPLORATION ON THE NORTH-WEST COAST OF AMERICA.—In Appendix No. 7 to the Report of the U. S. Coast and Geodetic Survey for 1886, Prof. George Davidson makes an examination of some of the early voyages to the N.W. coast of America, between the years 1539 and 1603.

He says in his Introduction: "I think I have been able to reconcile many of the discrepancies of the old Spanish, English, American, and French navigators. . . . While giving to these great men (Cook and Vancouver) the fullest credit for surveys unparalleled before or since (when all the attendant circumstances are considered), I cannot withhold my admiration for the indomitable courage and perseverance of the old Spanish navigators who, in small, ill-conditioned and ill-supplied vessels, with crews nearly destroyed by scurvy, fought their way to the wildest parts of the Alaskan coast, almost regardless of season."

With his personal, familiar knowledge of the Pacific shores, Prof. Davidson has found it possible to locate Ulloa, to track Cabrillo and Ferrelo in their discoveries in mid-winter, to place Drake under Cape Ferrelo and Point Reyes, and to fix with certainty the most of Vizcaino's positions.

The identifications made are marked on the chart (Scale 1:5,000,000), which shows the West Coast of America between 19° and 41° N. latitude.

Several errors, natural enough in a work printed without the advantage of the author's supervision, have

been corrected in a sheet issued by the U. S. Coast and Geodetic Survey, under date of May 22, 1888.

ONE DANGER OF THE SEAS.—The Pilot Chart of the North Atlantic, for June, issued by the Hydrographic Office at Washington, mentions four derelict vessels, which have been drifting about for several months. The Italian barque "Vincenzo Perrotta," abandoned Sept. 18, 1887, in lat. 36° N., lon. 54° W., has been reported eleven times, the last report being of April 27, 1888, in lat. $24^{\circ} 31'$ N., lon. $64^{\circ} 50'$ W. The Norwegian barque "Telemach," abandoned Oct. 13, 1887, in lat. 37° N., lon. 39° W., has been met with six times, the last being March 25, in lat. $29^{\circ} 32'$ N., lon. $32^{\circ} 33'$ W.

The American schooner "D. & E. Kelley," abandoned Dec. 19, 1887, was reported thirteen times in twenty-two days, and, it may be supposed, has since gone down.

Another American schooner, the "Edward G. Taulane," was abandoned Feby. 17, 1888, in lat. $35^{\circ} 18'$ N., lon. $73^{\circ} 10'$ W., and drifted 250 miles to the E.N.E. in five days, before she was met by the British steamer "Albano," and set on fire.

This did not destroy her, for she has been sighted twice since that time, the last report, of April 19, placing her in lat. $33^{\circ} 07'$ N., lon. $64^{\circ} 40'$ W.

It needs no very lively imagination to picture the ruin that may be wrought by these unguided masses, driven by wind and wave across the ocean highways.

THE GENERAL ADOPTION OF THE GREGORIAN CALENDAR.—The *Compte Rendu* of the Paris Geographical

Society for April 6, has a communication on this subject from Father Tondini di Quarenghi.

Four calendars are in daily use in Europe alone, the Gregorian, the Julian, the Mahometan and the Israelitish. The Julian year is twelve days behind the Gregorian, and these can be made to agree, for the affairs of civil life, by a simple process of addition or subtraction; but to adjust the dates of Church festivals, such as Easter, is a matter of nice calculation.

The Mahometan year is lunar, and counts, sometimes 354, sometimes 355 days: and New Year's Day travels through the seasons. In 1873, for instance, the Mussulman New Year corresponded to Feby. 17, while in 1888 it will fall on the 7th of September. The day begins, for Mahometans, at sunset, and there is no spot on the globe where the sun sets precisely at the same moment two days in succession; and the passage of the moon from one meridian to another is less rapid than the passage of the sun.

These and other details make it extremely difficult to compare the dates of the Mahometan calendar with those of the Gregorian; but this difficulty may be accepted as practically constant. Reform of the Mussulman system is not to be expected, so long as there are Mahometans.

The relation of the Calendar to the prime meridian leads Father Tondini to some reflections on the action of the International Congress at Washington, in 1884. He approves the attitude of M. Janssen, the French delegate, who opposed the adoption of the meridian of Greenwich, and he thinks material interests unworthy of consideration in such a question, without seeming to

remember that a prime meridian is desired principally for the advantage of material interests.

Father Tondini has lived a long time in England, and he is persuaded that the Anglo-Saxons are not less ready than other men to sacrifice their interests for the sake of a grand idea. Such an idea he now offers to the surprised meditation of Anglo-Saxons and others. He proposes to harmonize conflicting claims and arguments by adopting as a prime meridian that of the Holy Sepulchre ($32^{\circ} 52' 52''$ E. from Paris).

CARON'S VOYAGE TO TIMBUKTU.—An account of this memorable expedition was given by Lieut. Caron at a special meeting of the Paris Geographical Society, on the 9th of April.

The gunboat *Niger*, in which the voyage was made, was 60 ft. in length by not quite 10 ft. in width, with a draught of a little over 3 feet. There was stowage room for two months' provisions for the crew of 9 men, but the only space for the fuel was on deck, and wood had to be cut every few hours. With her two propellers the *Niger* made about five knots. She was armed with a revolving cannon, but was without protection against a hostile fire.

It was on the 1st of July, 1887, that the gunboat left Bamako. It was the time when the river begins to rise. For the first 125 miles the water was so low and the channel was so much obstructed by sandbanks that the steamer had to feel her way. The river was about two miles wide, and the vessel was sometimes in danger from the squalls that came up, accompanied by thunder and rain. From Sansandig to Diafarabé, a distance of sev-

enty miles, the river was very wide and shallow, though at full flood the water is from 16 to 26 feet deep.

Seventy miles beyond Diafarabé is Mopti, the first town in the country subject to Tidiani, the Toucouleur chief, who has carved out for himself within the last twenty years a kingdom of about 50,000 square miles. The Toucouleurs are fanatical Mussulmans, dreaded throughout Senegambia and the region of the Upper Niger for their energy and daring. The name they bear is neither English nor French, but, according to Reclus, a corruption of the ancient name of the country, the Tukurol, mentioned by Cadamosto.

Two days before leaving Diafarabé, Lieut. Caron sent a messenger to announce his coming to Tidiani. A tremendous storm, in the night of July 14, nearly put an end to the expedition.

The water swept everything fore and aft, and when the wind went down, with daylight, the men were so jaded that they got the vessel under way almost mechanically, and "without wishing each other good-morning." They arrived at Mopti on the 17th. In this part of the course the river was three miles wide, with low banks and scenery like that of the Nile.

The people live by catching and curing fish, which they sell in the back country. At Mopti the natives seemed to be afraid to hold communication with the Frenchmen. To reassure them the gunboat was anchored in the middle of the river, and it was not till the 21st that a messenger arrived from Tidiani, with a letter inviting Lieut. Caron to Bandiagara, thirty miles to the E. of Mopti, a journey to be made on horse-back. On the 24th, having had an attack of fever on the way,

Lieut. Caron reached Tidiani's palace, a great building in the Arab style. After breaking his fast, in company with 300 retainers, who sit down at the chief's table every day, the French officer was introduced to the ruler, who was very courteous but evidently distrustful. For more than a week, there were daily audiences with the chief, who put off, on one pretext or another, the conclusion of a treaty with the French; Lieut. Caron and his companion, Dr. Jouenne, being meanwhile kept under surveillance, though well treated. The 31st July was fixed on for the signature of the treaty and the departure of the Frenchmen, but at the interview with the Europeans that morning, Tidiani suddenly declared that Lieut. Caron should not go to Timbuktu.

"What!" he said, "if I receive you in my house, does that give you the right to enter my harem? Timbuktu belongs to me, and the Tuaregs are my women. You shall not go to see them without my permission."

The French officer met this explosion with firmness and temper, and, after some discussion, Tidiani exclaimed:

"Well, go then! but I will give you neither provisions, nor escort, nor horses."

Returned to Mopti, the voyagers rested for two days, and started again on the 6th of August. Fifty miles beyond Mopti the Niger enters Lake Dheboé, through which it flows, issuing on the northern side and continuing its course in a north-easterly direction. The lake is about twenty-five miles long from east to west, and about eleven wide in its broadest part.

The scarcity of fuel made itself felt on leaving Mopti, and was the cause of ceaseless anxiety during the remain-

der of the voyage. It was found also that Tidiani had sent on orders already that no one should have anything to do with the Frenchmen, and the population, though principally composed of Pouhls and Bambaras, was kept in good discipline by the Toucouleur chiefs. Notwithstanding the extremities to which this system of non-intercourse reduced his men, Lieut. Caron took nothing for which he did not leave an equivalent, and would not allow a shot to be fired; and to this prudent conduct he attributes, and with reason, the safe return of the party.

Beyond Lake Dheboé, the Niger is called the Bara-Issa. Between the lake and Safay, which is ninety miles below, the river is alternately from two to three miles wide, and then suddenly narrowed to less than 200 feet, with sharp curves between banks forty or fifty feet in height. One of these narrow passages is more than thirty miles long and the water in it was forty feet deep. The natives, armed with muskets, lined the banks above, but allowed the steamer to pass unmolested. In all this region there were fields of rice, millet, maize, tobacco and cotton, and broad pasture-lands covered with grasses ten feet high, in the midst of which were seen herds of cattle and flocks of sheep.

At Safay the gunboat left the territory of Tidiani. From this point to Timbuktu, a distance of seventy-five miles, the Niger is from a mile to two and a half miles wide, and the water in the channel is deep. Near Timbuktu the stream widens into a kind of shallow estuary, and there is hardly water enough, even in time of flood, to allow a boat of any considerable size to reach the city. Kábara, the port nearer to Timbuktu, is accessible towards the end of September, but Lieut. Caron,

arriving on the 18th of August, had to anchor his gunboat at Koriumé, the outer port, six miles from the mysterious African city, now at last brought within reach of the outer world.

On the 20th, the *Niger* started on her return to Bamako.

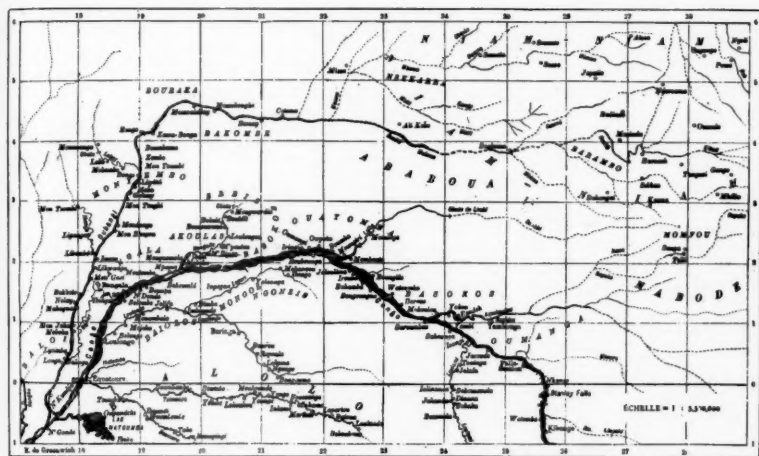
THE UBANGI-WELLE.—*Le Mouvement Géographique*, of April 22, publishes the map herewith reproduced and a brief account of Capt. Van Gèle's recent expedition, which appears to have established the identity of the Ubangi and the Welle rivers. The history of these rivers is also summarized.

Schweinfurth discovered the Welle in 1870, and supposed it to be the Shari, which flows into Lake Tchad.

Stanley, on the contrary, descending the Congo in 1877, and coming to the mouth of the Aruwimi, believed that he had found the Welle, and this belief was only confirmed by his ascent of the Aruwimi itself, in 1883, as far as the rapids of Yambuya.

The Ubangi was discovered in 1884 by Capt. Hanssens and Lieut. Van Gèle. It was ascended, the same year, as far as $1^{\circ} 25' \text{ N. Lat.}$, by Mr. George Grenfell, who subsequently pushed his exploration as far as $4^{\circ} 20'$. In October, 1886, Capt. Van Gèle and Lieut. Liénart, charged by the government of the Congo State with the solution of the problem presented by this river, failed to get beyond the Zongo rapids ($4^{\circ} 20' \text{ N. Lat.}$); and a second attempt by way of the Itimbiri was also unsuccessful. The third expedition left Equator Station, Oct. 26, 1887, in the steamer *En Avant*, reached the Zongo rapids, Nov. 21, and spent twenty days in pass-

ing these and five other rapids. Beyond the last, the Mokuangai, the river was half a mile wide, with an average depth of thirteen or fourteen feet, and for thirty-one miles above the Mokuangai rapids, it flowed from the north-east, then made a curve, and for the rest of its course, as far as the steamer went, came directly from the east. Through the 170 miles of this eastern por-



The Upper Congo and the Welle-Oubangi Basin.

tion the river is called Dua. The progress of the *En Avant* was stopped at $22^{\circ} 55'$ E. Lon., by her striking on a rock. Lieut. Liénart, who landed with a force to protect the cargo which was sent on shore, was attacked by the natives, who showed, though repulsed, such a determined attitude of hostility that Capt. Van Gèle decided to return.

The extreme point reached by Junker, who descended the Welle river towards the west, was $22^{\circ} 55'$, and the

latitude was $4^{\circ} 20'$ N., precisely that of the Ubangi at the point where Van Gèle's exploration ceased.

In each case the direction of the river was east and west; and it is hardly possible to doubt that the two streams are one and the same.

Capt. Van Gèle reports that between the third and the fifth rapids the country is beautiful, and the native race a fine one. One tribe, the Bakombé, is distinguished by an abundance of hair arranged in tresses, which are often six feet long—so long, in fact, that Lieut. Liénart says the women frequently tie them in loops, through which the arms are passed; a fashion which might be adopted, with modifications, in more northern climes.

The country seemed to be fertile, and provisions abounded, so that the rice taken on board at Equator Station was left untouched.

The people are great workers in iron, but make little use of the ivory of which they have great store.

Mr. Kaltbrunner, in the *Revue Française*, expresses some doubt of the conclusions, so positively stated in *Le Mouvement Géographique*, and the sketch map, used by Dr. Junker in his address before the Hamburg Geographical Society, on the 28th of April last, gives to the Welle a north-westerly direction from the point where the Russian traveller's exploration ceased, as reported; for the point is not indicated on the map.

AN INTERNATIONAL SYSTEM OF BUOYS.—The Lisbon Geographical Society, by a circular letter dated April 20, 1888, calls upon all scientific associations to interest themselves in bringing about an International Conven-

tion to study and propose a general and uniform system of buoys, light-ships, and other aids to navigation. There is already in existence an international code of signals, but there is none of buoys and light-ships. As things are now, navigators are obliged to make a special study of each port in each country, except in France, where the regulations are uniform for all the coasts and harbors. This want of system multiplies the chances of disaster. A vessel touching at a port in France, finds a buoy of a particular color to show that it must be passed to starboard. A buoy of the same color in a Spanish port must be passed on the larboard side; and these changes of meaning for the same signal do not even follow each other in order from country to country.

The Lisbon Society, though it is the first organization to take up this important subject, recognizes the priority of the idea in the remarks of Mr. Thomas Stevenson and Admiral Bedford before the conference held at the *Trinity House*, London, on the 11th of April, 1883.

The action proposed is that the Geographical Societies and other scientific bodies bring the matter before the respective Governments; and it will undoubtedly be considered in the Convention referred to in the Washington letter, elsewhere printed.

THE SPACE LEFT FOR COLONIZATION.—M. Ganeval shows, by a table printed in the *Bulletin* of the Lyons Geographical Society for Jany.—March, 1888, that the world is not yet overcrowded.

Allowing five acres to each inhabitant, he finds that Europe has room for an additional population of

115,000,000, Africa for 1,336,000,000, Asia for 1,402,000,000, Oceania for 515,000,000, and America for 2,009,000,000. The frozen regions of Asia and Europe are deducted from the available space, but Arctic America is somewhat hastily assumed to be fit for cultivation. M. Ganeval's calculations are open to correction on some points, and they do not take into account the forces that work against multiplication, but they suggest the probability that no one nation has yet done its best with the resources of its own soil.

THE CONTINENTAL CENTRE.—According to Gen. A. von Tillo in *Petermanns Mittheilungen*, Bd. 34, IV., the Continental centre is that point which lies farthest from the ocean, and to fix upon this point may be a matter of importance. He finds, for the five continents, the following centres (Longitude from Greenwich):

For Asia :	Lat.	Lon.
Between Kuldja and Aravidsi, in the Thian-Shan Mts.	43°N.	85°E.
For Africa :		
In the Niam-Niam Country.	4°N.	27°E.
For North America :		
In the Black Hills, Dakota.	45°N.	102°W.
For South America :		
The Source of the Paraguay.	14°S.	56°W.
For Australia :		
North of Amadeus Lake, Alexandra Land.	23°S.	132°E.

The smallest distance to the ocean is :

From the Asiatic point	. . . . .	1,616 miles.
" " African point	. . . . .	1,118 "
" " North American point	. . . . .	1,056 "
" " South American point	. . . . .	1,056 "
" " Australian point	. . . . .	590 "

The mean distance of the five is about 1,087 miles ; and while the Asiatic centre exceeds this distance by 529 miles, the Australian falls short of it by 497 miles. The Asiatic and North American centres are at almost the same distance from the Equator and are separated from each other by 187° of longitude.

There is no great difference in the distances from point to point. These are : between the Asiatic and the African about 70° , on the Equator ; between the North and the South American about 73° ; between the South American and the African 82° ; and between the North American and the Asiatic 92° .

BOSNIA AND HERZEGOVINA.—Mr. E. B. Freeman, H. B. M. Consul at Bosna-Serai, gives in the *Scottish Geographical Magazine* for May a short description of these new Austrian provinces. They belong to the *Karst* district, which extends from the Kraina, on the former Austrian frontier, to the southernmost point of Greece.

By the *Karst* is understood a rocky formation with only a slight depth of soil, mostly bare of woods. Throughout Bosnia the valleys and river-beds are cut between wall-like rocks, sometimes 1000 to 1200 feet high. Caves and caverns are common, and in these

whole rivers disappear, to rise again many miles away ; and in some parts of the country these rivers form periodical lakes. The Bosna, Vrbas, Sanna, and Unna rivers all gush out from the earth as large streams. The valleys often widen out into plains of considerable extent. The river systems are divided by plateaux, sometimes 3000 feet in height ; and in Nova-Bazar twice this height is reached.

Though Bosnia belongs to the Karst formation, the mountains are still covered with magnificent forests. The great water-shed of the region extends from Serajevo by Tarcin to Sebenico in Dalmatia, separating the rivers that flow northwards to the Save from the Nerenta, which empties into the Adriatic. South of this water-shed lies the Herzegovina, now a barren and rocky land, but once covered with forests. The formation is white limestone, and the climate is like that of Italy or Southern Spain. Grapes and olives ripen to perfection, while in Bosnia there is an intensely cold winter with deep snow, and a short, hot summer. The area of Bosnia is over 16,000 square miles, and that of Herzegovina about 4,000. Of the whole surface, 9,500 miles are covered with forests, 7,000 are arable land, and 4,400 are barren rock. The population was, in 1885, 1,336,000, of which number less than 200,000 belonged to Herzegovina. The Mussulmans were 493,000, the Greek Christians 571,000, and the Roman Catholics 266,000 ; and there were 5,800 Jews, descendants of those exiled from Spain 400 years ago. The Spanish language is still spoken by these Bosnian Jews.

A Contribution to American Thalassography—Three Cruises of the United States Coast and Geodetic Survey Steamer "Blake" in the Gulf of Mexico, in the Caribbean Sea, and along the Atlantic Coast of the United States, from 1877 to 1880, by Alexander Agassiz, in Two Volumes.

Boston and New York, 1888.

The cruises of the "Blake" for deep-sea soundings were made in the winters of 1877-78 and 1878-79, and in the summer of 1880. In the first expedition, under Lieut. Commander Sigsbee, U. S. N., the dredging operations were extended from Key West to Havana, and westward along the N. coast of Cuba, from Key West to the Tortugas, to the N. extremity of the Yucatan Bank, to Alacran Reef, to Cape Catoche across to Cape San Antonio, back to Key West, then to the Tortugas and northward to the mouth of the Mississippi. About 1100 miles of lines were made, taking the shortest distances from point to point.

In the second season the "Blake" was in charge of Commander J. R. Bartlett, U.S.N. The cruise was from Washington along the Greater Antilles and through the Windward Islands as far south as the hundred-fathom line off Trinidad, and the operations were brought to a close at Barbados. Commander Bartlett was again in charge in 1880, when the vessel left Newport in June for the north-eastern edge of George's Shoal, where the first line was run from the hundred-fathom line to a depth of nearly 1,250 fathoms. The second line, which extended to about 1,400 fathoms, was made to the south-east, off Montauk Point.

From Newport a line of dredgings was run from the

hundred-fathom line normal to the coast, across the Gulf Stream, to about 120 miles E. of Charleston.

The greatest depth not being much over 350 fathoms, Commander Bartlett returned towards shore, and ran a line in a N.E. direction parallel to the coast in the trough of the Gulf Stream. The depth did not increase till the latitude of Cape Hatteras was nearly reached, when in a short distance there was a drop from 352 to 1,386 fathoms. A fifth line was run normal to this northern slope of the Gulf Stream plateau, to a depth of 1,632 fathoms, and a sixth to the northward of Cape Hatteras to a depth of 1,047 fathoms. A seventh line to the E. off Cape May, was extended from the hundred-fathom line to 1,200 fathoms.

The results of this last exploration showed the probable existence of an immense submarine plateau along the whole coast line south of Cape Hatteras to the latitude of the Bahamas. Further examination by Commander Bartlett in 1881 developed an immense plateau, of a triangular shape, reaching from the Bahamas to a point immediately S. of Cape Hatteras; and Mr. Agassiz adds in a note that Lieut. Commander Brownson, U.S.N., has since established the fact that this plateau (here called the *Blake*) commences slightly to the westward of Great Abaco. Lieut. Commander Brownson proved also that to the S. the eastern edge of the Bahama Bank continued but a short distance seaward parallel to the general line of the outer row of islands of the group till it united with the plateau of Porto Rico and the Caribbean Islands, leaving probably one or two deep passages extending towards the old Bahama Channel north of St. Domingo and Cuba, leading to the Windward Passage.

The observations show that the bottom of the Gulf Stream along the Blake Plateau is swept clean of slime and ooze and is nearly barren of animal life.

The current observations indicate that the velocity of the Gulf Stream in its axis, where it is greater than along the edges, varies from two miles an hour, or less, to fully five miles. The velocity rapidly decreases to the N. In the latitude of New York it is two and a half miles an hour; off the Banks of Newfoundland it is reduced to one and a half or two miles; and three hundred miles to the eastward it is scarcely perceptible. The force of the stream is kept up, not merely by the differences in oceanic temperature, but by the actual pressure of the heaped-up waters driven by the tradewinds into the Gulf of Mexico. The officers of the U.S. Coast Survey have discovered by a most careful series of levels from Sandy Hook and the mouth of the Mississippi River to St. Louis, that the Atlantic Ocean at the first point is 40 inches lower than the Gulf of Mexico at the mouth of the Mississippi.

After an introductory sketch of Deep-Sea Work, Prof. Agassiz treats successively in the first volume the Florida Reefs, the topography of the Eastern Coast of the North American Continent, the Relations of the American and West Indian Fauna and Flora, the Permanence of Continents and of Oceanic Basins, the Deep-Sea Formations, and Fauna, the Pelagic Fauna and Flora, the Temperatures of the Seas Explored, the Gulf Stream, Submarine Deposits, and the Physiology of Deep-Sea Life. The second volume gives the classification and summarised description of the collections made. The reports on these collections have yet to be

completed by eminent specialists, who have undertaken the different subjects.

The richest harvests were gathered, Prof. Agassiz says, not from the deepest waters of the West Indian or Atlantic areas, but mainly on the continental slopes near the five-hundred-fathom line, where food is most abundant, or the slopes are washed by favorable currents. He adds: "Several places really phenomenal from their richness were met with by the 'Blake,'—off Havana, to the westward of St. Vincent, off Frederichstæd (Santa Cruz), off the Tortugas where the Gulf Stream strikes the southern extremity of the Florida Reef, and off Cape Hatteras. . . . We may safely say that the abundance of life in the many favored localities of the ocean far surpasses that of the richest terrestrial faunal districts. The most thickly populated tropical jungle does not compare, in wealth of animal or vegetable life, with a marine district such as a coral reef, or some of the assemblages mentioned."

The mechanical execution of the "Three Cruises" is admirable. The paper and typography, the maps and the many beautiful illustrations, give it a place among the finest books of the year.

Tropical Africa.—By Henry Drummond, LL.D., F.R.S.E., F.G.S. *Authorized Edition, with Six Maps, and Illustrations.*

New York, 1888.

Mr. Drummond's book is, according to his preface, a few lecture-notes thrown into popular form as a general sketch of East Central Africa.

He does not conceal the fact that a special reason

exists just now for writing about Africa, because recent events on Lake Nyassa have stirred a new desire in the hearts of those who care for native Africa that the "open sore of the world" should have a last and decisive treatment at the hands of England.

Thus far the preface. For the notes themselves, it must be said that they are bright and reasonable, if not always convincing. Every spirit, as yet undisturbed by the rumor of this world, will feel the beauty and the justice of the tribute paid to Mrs. Livingstone. Her grave . . . "is an utter wilderness, matted with jungle grass and trodden by the beasts of the forest; and as I looked at the forsaken mound and contrasted it with her husband's tomb in Westminster Abbey, I thought perhaps the woman's love which brought her to a spot like this might be not less worthy of immortality."

The geography of Africa is sketched in a few broad strokes. There is first a coast-line, low and deadly, and two or three hundred miles broad; then a plateau of from 2,000 to 3,000 feet in height and some hundreds of miles wide; and beyond this the Central African plateau, 4,000 to 5,000 feet high. Three great rivers descend from the Central Plateau, the Nile, flowing to the N., the Congo, to the W., and the Zambesi, to the S.E. The Niger, rising far in the west, flows to the N., the E. and the S., and finds an outlet in the Gulf of Guinea.

These four great rivers, though interrupted by falls and rapids, offer, with the great lakes, the means of penetrating to the interior. Explorers do not necessarily lose their way when they leave the rivers. Mr. Drummond says: "Probably no country in the world, civilized

or uncivilized, is better supplied with paths than this unmapped continent.

"Every village is connected with some other village, every tribe with the next tribe, every state with its neighbor, and therefore with all the rest. . . . These tracks . . . are foot-paths, never over a foot in breadth, beaten and hard as adamant, and, as a rule, marvellously direct."

The African traveller must face the fever. No European ever escapes it, and the natives, particularly in changing from place to place, suffer equally with the Europeans. Quinine is almost the sole remedy.

Mr. Drummond believes that, with opportunity and inducement, the Africans will work. Forty-six miles of the Stevenson road between Lake Nyassa and Lake Tanganyika were built, he says, entirely by native labor, and could not have been better done by English navvies. Nevertheless, it is not to be expected that the natives will follow any regular occupation so long as the supply of ivory holds out; and the disappearance of the elephant will be, taking all things into consideration, a decided blessing to Africa.

The "Diary" is full of instructive observations, and the essays and short papers which Mr. Drummond has included in his volume are delightful reading.

It is when he takes up the subject of the slave-trade and what he calls a "Political Warning," that he and his reader must part company. Every one knows that all the other obstacles in the way of African progress are as nothing in comparison with the traffic in slaves, but dispassionate minds fail to see why this traffic must necessarily continue to flourish, unless the control of the

most desirable positions in Central Africa is handed over to England. It is not to be doubted that the English rule would be a great improvement on any native African government, but there is nothing on record to show that England is in any way better fitted for the work of civilization in Africa than France, or Italy, or Germany, or Portugal. Each one of these four nations openly seeks in its colonies and protectorates, first of all, its own interest: but no one of them loses sight of its obligations to humanity. England also, it must be acknowledged, is mindful of her responsibilities, but those who undertake to speak for her protest too much, in season and out of season. Their pretensions to philanthropy and their fondness for preaching are scoffed at by an unbelieving world, and tend to weaken the influence of the nation. It is abundantly proved that Africa must be redeemed by help from abroad. If the field were open to her, China would probably handle the Africans in the most satisfactory manner: but the Europeans are on the ground with their work before them, and they ought to act in concert. To do this, they must respect each other, a thing hardly possible if England is to monopolize the virtues.

China: Its Social, Political and Religious Life.
—From the French of G. Eug. Simon.

London, :887.

This book should have appeared in the happy days of the eighteenth century, when every one with a tincture of philosophy regarded the Chinese Empire as the ideally perfect State, partly because it was a long way off, but much more because it was Pagan. M. Simon

appears to have lived a long time in China, and to be well acquainted with many parts of it. He philosophizes continually, but he gives, also, much statistical information about the revenue and resources of the country, the cost of living, and the income of a working family, and other dull matters that pertain to earth ; but he is giddy with enthusiasm, and all his pages are suffused with a celestial rosy red light.

People, government, religion, laws, morals, manners, all are sweetness and righteousness and peace. The Chinese peasant is a wonderful combination of Confucius and St. Francis of Assisi and Chesterfield.

There are no bad boys in China ; only little angels with pig-tails for wings.

What the Central Flowery Land is any other country may become, by getting rid of supernatural religion, and accepting the civilization which has taught the Chinese "how to spiritualize the earth and the worship of Heaven."

M. Simon has done what he could to darken counsel by words, not, indeed, without knowledge, but wholly without wisdom.

Through the Yang-Tse Gorges, or Trade and Travel in Western China.—By Archibald John Little, F.R.G.S.

London, 1888.

Mr. Little's book is the transcript of a journal kept by him during a two months' journey from Shanghai to Chung-King, in Western China.

The Yang-tse is, he says, the sole means of communication between the east and the west of the Empire, for roads, properly so-called, have no existence. The

Yang-tse divides China into nearly equal parts, eight provinces lying to the N., and eight to the S. of the river, and two, Ngan-hui and Kiang-su, lying across it. For about 2,000 miles the Yang-tse flows through mountain land, from which it issues at the I-chang Gorge, 1,000 nautical miles from the sea. Chung-King, Mr. Little's farthest western point, is 400 miles above I-chang, and between these two places there is an almost uninterrupted series of rapids, though the total fall for the distance is only 467 feet. For the lower and more tranquil 1,800 miles of its course, the great river runs with a speed twice that of the Nile or the Amazon, and three times that of the Ganges.

The voyage from Shanghai to Hankow was made in one of the large river steamers, with stoppages for landing passengers and freight.

At Hankow boats were engaged for the four months' voyage into the interior, and Mr. Little's experiences during this time did not leave a very favorable impression on his mind. He found everywhere signs of misery and poverty and dirt and neglect. The villages were wretched and he was hunted, whenever he landed, by crowds of beggars. At the same time, he makes the ingenuous confession that the misery was, perhaps, more apparent than real, for the ground was well cultivated, and the wheat fields stretched, in places, as far as the eye could reach. The climate everywhere was mild, though it was early in March.

That the rapids are not formidable obstacles to navigation is sufficiently shown by the fact that boats are towed against the stream by human muscle, and Mr. Little is probably in the right in his conclusion that

steamers would find no difficulty in making regular trips. The tow-lines now used are made of bamboo, plaited into a cable as thick as a man's arm, but a single voyage wears out the line with the friction against the granite rocks, which are deeply scored.

Here, as elsewhere in China, if the works of man are vile, those of nature are grand. The Wu-Shan Gorge, on the border of Sze-Chuen, is twenty miles long, and from 350 to 600 yards in width. The river, which the Chinese believe to be unfathomable, "winds round the base of precipitous cliffs, rising in places to 1,000 feet, with loftier mountains behind, throughout the whole length of this gorge. The entrance, as the river seems to disappear behind the mountains—range upon range of which rise above us, the highest summits just projecting above the fleecy clouds—presents a sublime and solemn aspect. The silence is complete: the rare junks are lost in the immensity of the surrounding nature." . . .

In Sze-Chuen Mr. Little found fewer indications of ruin and poverty, but dirt was everywhere. He commiserates the mandarins, whose task is a hard one, and he doubts whether the missionaries can do anything for a country which already possesses, "in the teachings of Confucius, a doctrine in no way inferior to Christianity;" but his general view of the Chinese civilization is almost the opposite of that taken by M. Simon.

It is plain that both cannot be right, and the subject is, perhaps, too vast to be disposed of in a single volume, or by one man.

TITLES OF PAPERS IN GEOGRAPHICAL JOURNALS.

BERLIN.—*Gesellschaft für Erdkunde, Verhandlungen.*

On the Economical Aspects of the Trans-Caspian Railway—The Physical and Zoological Relations of the Baltic—The Severe Winter of 1887-88 in Upper Italy—The Eighth German Geographical Congress in Berlin—Toll's Journey to the New Siberian Islands—The Transvaal and Its Gold-Fields—Geography and Ethnography of Southern Mesopotamia—The Isthmus of Corinth.

Zeitschrift.

Sir John Mandeville and the Sources of his *Travels*
—The Rains of the Iberian Peninsula.

Deutsche Kolonialzeitung.

Letters of an African Prince—Voyages of German War Ships in 1887—The Congo State, Stanley and England—The Mining Law for Southwest Africa—Madagascar and its Commerce with Germany—The Change of Ruler in Zanzibar—Australia and the South Sea—Germany, England, and South Africa—The Question of a Government Bounty for the East African Steamers—The Mahometan Opposition to Christian Influence in Central Africa—Portuguese Colonial Management—On German Emigration—German Mail Communication with East Africa—English Newspaper Sentiment.

BREMEN.—*Deutsche Geographische Blätter.*

Report of a Voyage to the North Polar Sea and to Spitzbergen in 1886—The Commercial Rela-

tions of Persia—J. G. Kohl's American Studies (by Hermann A. Schumacher).

BRUSSELS.—*Société Royale Belge de Géographie, Bulletin.*

A Journey to the Interior of Greenland (Peary and Maigaard)—Exploration of the Kassai and Sankuru—Seneffe.

BUENOS AYRES.—*Instituto Geográfico Argentino, Boletín.*
Statistics of Population of Buenos Aires.

EDINBURGH.—*Scottish Geographical Magazine.*

Exploration of Gulf of Guinea—Recent Botanical Exploration of Arabia—Bathymetrical Survey of the Chief Perthshire Lochs and their Relation to the Glaciation of that District—A Short Geographical and Historical Sketch of Bosnia and Herzegovina—Caucasian Idioms—The East Central African Question—The Extension of Arab Influence in Africa—Recent Explorations in Tierra del Fuego.

FLORENCE.—*Sezione Fiorentina della Società Africana d'Italia, Bullettino.*

Our African Possessions and their Future—The Language of the Gallas—The Duty of Italy to Succor the Italian Missionaries—Massowah: Facts and Ideals, Near and Remote—Assab in 1886.

GOTHA.—*Petermanns Mittheilungen.*

The New Edition of Stieler's Atlas—Cartographic Results of a Journey in the Colombian Andes—Continental Centres—The North Cape of Iceland—Development of Population and Settlement in the United States—The Nanusa Islands (Lat. 4° 35' N., Lon. 127° 5' E.)—Em-

ployment of Elephants for the Exploration of Unknown Regions—The Position of the Magnetic Pole in Relation to the Distribution of Land and Water on the Earth—The Voyage of the *En Avant* on the Ubangi—The Glaciers of the Thian-Shan.

LONDON.—*Royal Geographical Society, Proceedings.*

Journey in the Interior of Labrador, July to October, 1887—Lectures on Geography, by Gen. Strachey—On the Ruby Mines, near Mogok, Burma—Mr. F. C. Selous's Further Explorations in Matabele-Land.

MADRID.—*Sociedad Geográfica, Boletín.*

An Ascent of Pichincha in 1582—Brief Considerations on the State of the Spanish Possessions in the Gulf of Guinea.

MANCHESTER.—*Geographical Society, Journal.*

Railway Connection of Burma and China—Social System of the Lower Congo—Manchuria—Ruby Mines of Burma—The Dyaks of Saráwak, Borneo—Physical Geography and Trade of Formosa—The Bangala—Matabeleland and the Country between the Zambesi and the Limpopo Rivers.

NAPLES.—*Società Africana d'Italia, Bollettino.*

The Future—Keren—Africa at War—The English and Germans in Africa—The Country of the Garanganze—Italy and Abyssinia—From the Camp at Tamarisco—The Mission of Italy in Africa.

NEW YORK.—*Science.*

Address of the President of the National Geo-

graphic Society—The Yukon Expedition, 1887
—Exploration of the Obangi-Welle—Explorations in Greenland.

PARIS.—*Société de Géographie, Compte Rendu.*

Nansen's Expedition to Greenland—The Frontiers of Tonkin and China on the Gulf of Tonkin—Origin of the Names Senegal, Galam, and Casamanca—The First French Explorers of the Sudan—Great Fall of Snow at Copenhagen (March 10-13, 1888)—Explorations in Indo-China—Discovery of an Island in the Arctic Ocean—Mt. Woso, in Ethiopia—The Island of Réunion—Changes in the Bed of the Hoang-Ho—General Adoption of the Gregorian Calendar—Reception of Lieut. Caron.

Société de Géographie Commerciale, Bulletin.

The Caucasus and the Trans-Caspian Country—The Canary Islands—Journey Across the Pamir—Mesopotamia and Persia—French Commerce and the Cultivation of Oil-Plants in Algeria—The Morocco Frontier.

ROME.—*Società Geografica Italiana, Bollettino.*

Italian Missions and Schools in the Orient—Italian Interests in the East—The Corinth Canal—The Sund (the *Sound* between Denmark and Sweden) or the Öresund—On the Name of "America" (by Luigi Hugues)—On Some Geographical and Chronological Problems Connected with the Movements of the Earth (by S. Millosevich)—The Map of Massowah and Saati.

TURIN.—*Cosmos.*

The Italian Possessions in the Red Sea and the Second Armed Expedition to Massowah—From the Bay of Assab to Shoa—Relative Position of the Monte Mario (Rome) Meridian to that of Greenwich—Recent Danish Explorations in Greenland—Auser, Arno and Serchio in Pisa—The Mayas—Latitudes Determined in Central Asia by Dalgleish, of the A. D. Carey Expedition.

VIENNA.—*Mittheilungen der K-K. Geographischen Gesellschaft.*

The Province of Assam, British-India—Hann's Meteorological Atlas—An Attempt at a Determination of Mean Heights and Depths of the Earth—Changes in the Course of the Reno (affluent of the Po)—Changes of Level in the Lakes of Upper Armenia (Dr. Robert Sieger)—The Mountain System of Borneo—Contributions to the Expedition to Persia in 1882 (Dr. J. E. Polak).

WASHINGTON LETTER.

WASHINGTON, June 15, 1888.

A Conference of representatives of the Maritime nations is to be held at Washington, to revise the rules of the road at sea and the code of flag and night signals; to adopt a uniform system of signals indicating the direction in which vessels are moving in fog, mist, falling snow and thick weather, and at night; to discuss methods of saving life and property in shipwreck, etc. Five delegates, to represent the United States, will be appointed by the President.

Commander John Russell Bartlett, Chief of the U. S. Hydrographic Office, has been relieved from duty at his own request, and granted leave of absence for one year. It is understood that at the end of this period he will offer his resignation, in order to take charge of business interests at Providence, R. I. His retirement from what should have been a life-work is a public loss, greatly to be deplored.

Mr. B. A. Calonna, Assistant in charge of the Office and Topography of the U. S. Coast and Geodetic Survey, has added a new feature to the Catalogue of Charts and Other Publications, recently issued. This consists of diagrams, or index maps, so printed as to form part of the text of the Catalogue, and arranged to show the location of the charts referred to on the opposite page.

This will add to the usefulness of the Catalogue, which now extends to 138 pages 4°.

The Samoan question is, possibly, not quite settled. The President transmitted to Congress, under date of April 2, a document of 311 pages, covering: the Report of Mr. Geo. H. Bates, Special Agent of the Department of State, on the history of the Islands since the overthrow of the Steinberger government in 1876; the Report of the German Special Commissioner; and the Report of the British Commissioner. The last reviews the geography and history of the group. Among other papers are the Steinberger Constitution of 1875 (reprinted from a local journal), the municipal regulations of Apia, Maps of German and English land claims, etc. There is pending in the House of Representatives a Joint Resolution requesting the President to interpose the good offices of this Government to aid the Samoans in securing their independence.

By an Act approved March 20, 1888, the Director of the U. S. Geological Survey is required to study the practicability of constructing storage reservoirs for water in the arid portion of the country. The region in which agriculture must depend wholly upon irrigation is broadly defined by the Director as that lying W. of the 100th meridian, and embracing about 1,300,000 square miles. Deducting about 300,000 square miles for lands irreclaimable under present systems, there are left 1,000,000, which need only water to be made productive. These lands represent, at \$1.25 per acre (the minimum price of public land), a valuation of \$800,000,000; at \$30 per acre, a moderate estimate for irrigated land, they would be worth \$19,200,000,000. There can be no doubt as

to the practicability of the scheme, though it may be some time before even the smaller sum is paid into the U. S. Treasury. The Director of the Survey thinks that, after locating and investigating a number of drainage districts, the first and most important part of the work will be the construction of topographical maps, with the necessary detail.

If the requisite appropriation is made by Congress, the work will be begun without delay.

Special Issue, No. 9 (May 3, 1888) of the U. S. Consular Reports, notices the arrival in Moscow, in February last, of Capt. Jos. Wiggins, an Arctic explorer well known in England. In August, 1887, Capt. Wiggins left Newcastle-upon-Tyne in the steamer *Phoenix*, passed around the North Cape and through the Kara Strait to the Yenisei River, which he ascended for 1,000 miles, and there left his vessel for the winter. This is his third voyage made in the same way to the Siberian Coast.

H.

THEODORUS BAILEY MYERS.

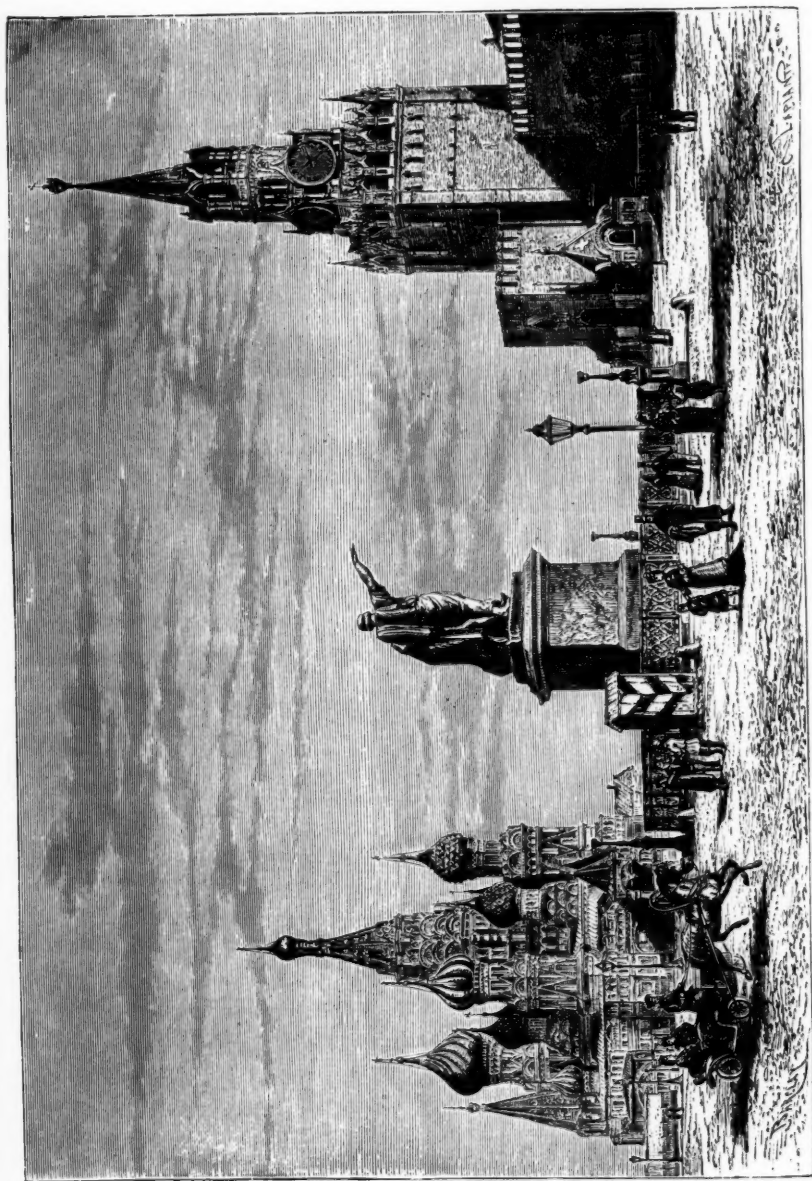
BORN DECEMBER 13, 1821.

DIED JUNE 16, 1888.

Col. T. Bailey Myers became a Fellow of the American Geographical Society in 1852, when it was founded, and held a seat in the Council from the year 1870 until his death. In 1873 he was elected, and served one term, as Vice-President.

This is the bare record of dates ; but to those who survive his memory is associated with the history of the Society, with its early struggles and with its present condition of prosperity.

Col. Myers had a fondness for liberal studies, and especially devoted himself to the collection of original documents relating to American history. His zeal in the cause of geography was hardly less marked, and every measure proposed for increasing the Society's means of usefulness was assured beforehand of his energetic co-operation ; but for the past three years failing health had forced him to withdraw from active participation in the work, which never ceased to interest him.



ST. BASIL.

MININ-POJARSKI MONUMENT.

RED SQUARE, MOSCOW.

RESURRECTION GATE.